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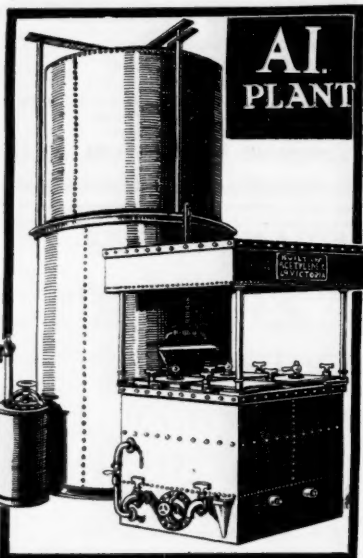
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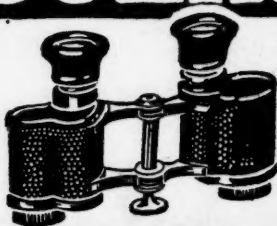
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*General Richard Montgomery, who fell
at Quebec, 1775.*



*Colonel Arnold,
Wounded at Quebec, 1775.*



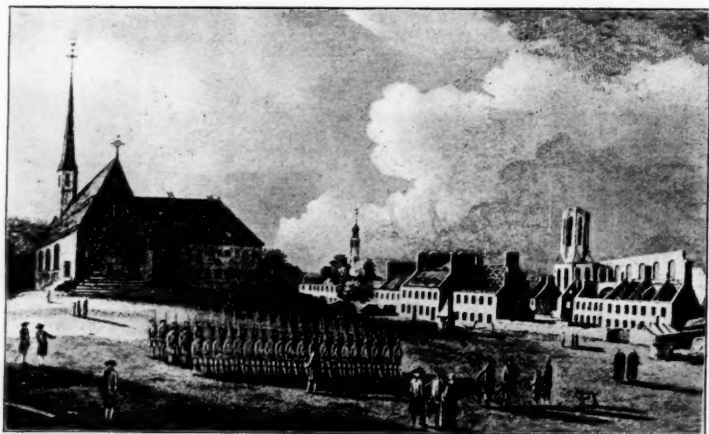
*Scene of Arnold's Defeat, 1775
Corner of Sault au Matelot and St. James Streets, Quebec.
Tablet placed by the Literary and Historical Society of Quebec, 1904.*

[The second barricade was across Sous le Cap Street, behind where figure stands.]

[See page 1260.]



*Colonel Allan Maclean, and a Private of the
Royal Highland Emigrants, 1775.*



*View of the Cathedral and Jesuits College, Quebec, 1761,
showing damage done by bombardment of 1759.*

[See page 1253.]

SUBJECT FOR GOLD MEDAL ESSAY.

The Council invite suggestions from Members of the Institution for the subject of the 1913 Military Essay.

They should be submitted to the Secretary before the end of October, since the Council will decide on the subject during the following month.

ROYAL UNITED SERVICE INSTITUTION.

SEPTEMBER, 1912.

SECRETARY'S NOTES:

I.—OFFICERS JOINED.

The following officers joined the Institution during the month of August:—

Lieutenant H. C. R. Saunders, East Yorkshire Regiment.
Lieutenant H. J. Simson, The Royal Scots.
Lieutenant S. H. Drummond, Rifle Brigade.
Captain F. A. G. Roughton, I.A.
Sub-Lieutenant D. R. M. Kirkwood, R.N.
Second Lieutenant Hon. E. H. J. Boscawen, Coldstream Guards.
Lieutenant F. C. Longbourne, Royal West Surrey Regiment.
Lieutenant G. S. W. St. George, I.A.

II.—NEW MEMBERS.

A form is inserted in this JOURNAL, and will be repeated regularly for the benefit of those officers who may wish to join the Institution. The filling up of the form, and its transmission to the Secretary, is all that is necessary in the case of officers appearing in the official Active Lists. The Council hope that members will circulate the forms. Officers joining after the 1st October in any year are not called upon for any subscription the following year.

III.—JOURNALS.

Owing to limited storage accommodation, members are informed that it is impossible to retain JOURNALS for them at the Institution. In future members who do not wish their JOURNALS sent to them, will be placed on the "non-JOURNAL list." Every endeavour will be made to supply such members with copies of the JOURNAL, if in stock, as they require them.

IV.—ADDITIONS TO THE MUSEUM.

- (6475) A coloured engraving of the interior of the Duke of York's School, by Rowlandson, and published by Ackerman in 1810.
- (6476) An Indian spear, the shaft being covered with silver, which was taken at Lucknow during the mutiny of 1857-8, by the late Captain St. Andrew Beauchamp St. John, of the 10th Regiment.—Bequeathed by the late Captain Oliver Beauchamp St. John, late 58th Regiment.
- (6477) An Indian silver-mounted tulwar with lion's head hilt, taken at Lucknow during the mutiny of 1857-58, by Captain St. Andrew Beauchamp St. John, of the 10th Regiment.—Bequeathed by the late Captain Oliver Beauchamp St. John, late 58th Regiment.

The attention of members is called to the **Museum Purchase Fund**, which exists for the object of purchasing suitable exhibits, which are from time to time offered to the Museum.

V.—ARMY PROMOTION LECTURES.

A course of eight lectures in Military History on "The Campaign of Napoleon in 1805," set for the December Army Promotion Examination, will be given on the following dates, at 4 p.m., the Lecturer being T. Miller Maguire, Esq., LL.D., F.R. Hist. S., Barrister-at-Law:—

Tuesday, November 5th.
Friday, November 8th.
Tuesday, November 12th.
Friday, November 15th.
Tuesday, November 19th.
Friday, November 22nd.
Tuesday, November 26th.
Friday, November 29th.

The fee for the course of lectures is one guinea for members of the Institution, and two guineas for non-members.

Application to attend, enclosing the fee, to be addressed to the Secretary, Royal United Service Institution, Whitehall, S.W.

VI.—LECTURES.

With reference to the lecture to be given on Wednesday, October 16th, 1912, by Captain G. S. MacIlwaine, R.N., the correct title is "The Corrugated Ship," and not as mentioned in the Secretary's Notes of the August JOURNAL.

PRINCIPAL ADDITIONS TO LIBRARY.

August, 1912.

The American People—A Study in National Psychology. By A. Maurice Low. 8vo. 8s. 6d. (T. Fisher Unwin). London, 1911.

Le Maréchal Pélessier, Duc de Malakoff. By General V. Derrécagaix. 8vo. 7s. 6d. (R. Chapelot et Cie.). Paris, 1911.

Vollständiges Nautisches Taschen—Wörterbuch. Deutsch—Englisch und Englisch—Deutsch. By John Barten. Crown 8vo. 7s. 3d. (Dietrich Reimer). Berlin, 1911.

La Prochaine Guerre. By Charles Malo. 8vo. 1s. 6d. (Presented by the Publishers) (Berger-Levrault). Paris, 1912.

A Narrative of the Loss of the "Grosvenor," East Indiaman, which was unfortunately wrecked upon the Coast of Caffraria on the 4th August, 1782. Compiled from the Examination of John Hynes, one of the Unfortunate Survivors. By Mr. George Carter. 8vo. (Presented by Miss E. Low Ashton) (John Murray). London, 1791.

The Tale of the Great Persian War from the Histories of Herodotus. By Revd. G. W. Cox. Crown 8vo. 1s. Illustrated. (Longman, Green, Longman & Roberts). London, 1861.

My Three Years in Manipur and Escape from the Kertch Mutiny. By Ethel St. Clair Grimwood. 8vo. 1s. Illustrated. (Richard Bentley & Son). London, 1891.

A Narrative of the Proceedings of the British Fleet Commanded by Admiral Sir John Jervis, K.B., in the late Action with the Spanish Fleet on the 14th February, 1797, off Cape St. Vincent. By an officer of His Majesty's Land Forces. Small 4to. (Presented by Major-General E. C. Bethune, C.V.O., C.B.) (J. Johnson). London 1797.

The Family and Heirs of Sir Francis Drake. By Lady Elliott-Drake. 2 vols. 8vo. 31s. 6d. Illustrated. (Smith, Elder & Co.). London, 1911.

The Problem of Empire Governance. By Charles E. T. Stuart-Linton. Crown 8vo. 3s. 6d. (Presented by the Publishers) (Longmans, Green & Co.). London, 1912.

On War of To-day. By General F. von Bernhardi. Authorized translation by Karl von Donat. Vol. 1. 8vo. 9s. (Presented by the Publishers) (Hugh Rees, Ltd.). London, 1912.

Our Cavalry. By Major-General M. F. Rimington, C.V.O., C.B. 8vo. 5s. (Presented by the Publishers) (Macmillan & Co., Ltd.). London, 1912.

Achtzehn Monate mit Russlands Herren in der Mandschurei. By Freiherr von Tettau. 2 vols. 8vo. 30s. Illustrated. (E. S. Mittler & Sohn). Berlin, 1907-08.

Itinéraire Général de Napoléon I. By Ulbert Schuermans. 8vo. 5s. 8d. (Jouve et Cie.). Paris, 1911.

The Record of the Royal Society of London. 3rd Edition. Entirely revised and re-arranged. Imp. 8vo. (Presented by the Oxford University Press) (Oxford University Press). Oxford, 1912.

The Signatures in the First Journal Book and Charter Book of the Royal Society. Demy fol. (Presented by the Oxford University Press) (Oxford University Press). Oxford, 1912.

Active Service Pocket Book. By Lieut. Bertrand Stewart. 5th Edition. 12mo. 4s. Illustrated. (Presented by the Publishers) (William Clowes & Sons, Ltd.). London, 1912.

Sketch Map Illustrating Napoleon's Campaign in 1805 (Ulm & Austerlitz), with Notes and References. 8vo. 2s. 6d. (Presented by the Publishers) (Forster Groom & Co., Ltd.). London, 1912.

History of the Sixteenth, The Queen's, Light Dragoons (Lancers), 1759 to 1912. By Colonel Henry Graham. 4to. Illustrated. (Presented by the Author) (George Simpson). Devizes, 1912.

Our Commerce in War and How to Protect it. By J. T. Danson. 8vo. 3s. 6d. (Blades, East & Blades). London, 1897.

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[Authors alone are responsible for the contents of their respective Papers.]

THE INFLUENCE OF COAST FORTRESSES
ON NAVAL STRATEGY.

By LIEUT.-COLONEL W. R. W. JAMES, Royal Artillery.

FROM the commencement of my earliest efforts to study naval history I have, I believe rightly, endeavoured to consider the subject in relation to my own special branch of the profession, and have been continuously met by the following difficulty.

Fixed armament firing over sea areas is commonly termed artillery for *Coast Defence*.

Modern naval historians take the utmost pains to elucidate these great principles, viz.:—

That the true *defence* of our island Kingdom, and of her outlying possessions, is dependent on the Navy; that invasion of the Mother Country, or annexation of territory beyond the sea, is an impossibility as long as our Navy remains unbeaten.

That the true naval objective of a belligerent is the adversary's naval force, and that until maritime preponderance, usually termed command of the sea, is obtained, transpontine land attacks are strategically unsound.

On the other hand when one turns to the plain narratives of our campaigns, ever since the beginning of modern history, one is confronted with the obvious fact that our naval operations have almost invariably centred round some *coast fortress*, in whatever quarter of the globe hostilities were conducted, even at periods when maritime preponderance was still in dispute.

One thus finds oneself on the horns of a dilemma.

Had strategists like Drake, Hood, or Nelson, not fully grasped the fundamental law governing the strategic use of their arm? It appears unthinkable.

Were they coerced into false strategical action by Governments unable to take a comprehensive grasp of the situation from the professional standpoint?

Written evidence in profusion is still extant in the national archives to negative such a suggestion.

Is the modern naval historian mistaken? Emphatically no.

The more time the student devotes to this all absorbing subject the more convinced he becomes of the basic truth of these maxims.

We seem, therefore, to be confronted with a problem worthy of the expenditure of all the time and brains that officers of the R.G.A. can devote to the solution; for, if there is no way of reconciling the existence of the coast fortress with what must be accepted as naval axioms, then every farthing expended on the maintenance of fixed defences is money thrown away, and the coast defence gunner is condemned to a task only comparable to that of Sysiphus.

It is impossible for any thinking man to take a real interest in his profession, if, in his inmost soul there lurks a conviction that his labours are in vain, and that he is a mere cumberer of the ground; costly and useless.

I.—THE UTILITY OF NAVAL BASES.

I have on previous occasions essayed to prove by the light of history that coast fortresses were not without value; now I am attempting a further step.

My present object is to show that the maintenance of coast fortresses, erected for the purpose of defending naval bases, is not a transgression of any strategic law deduced from the operations of great naval commanders; but that the misconception as regards their utility has arisen owing to the fact that naval historians have generally failed to bring to notice their proper status as units in the setting of the strategic chess board. I attribute this mis-classification in a great measure to the generally loose use made of technical terms, such as *command of the sea—coast defence—raiding attacks—territorial invasion*, etc.; but also partly to the erroneous idea that complete maritime supremacy, without any ulterior object, can represent the objective of any true strategist.

THE VALUE OF COMMAND OF THE SEA.

The possession of the sea itself is of little value.

The products that can be obtained from it, are not comparable to those of the land; nor can man support existence, or even venture on the ocean without the aid of the products of the land: he is a terrestrial, not a marine animal.

The value of the high sea rests on its utility as a highway, and not on its own intrinsic worth. When a nation has gained control of that highway, in order to coerce its adversary (which is the object of war), it must make use of the road; the mere possession of it, except as a threat, is of no advantage.

It is immaterial whether the possession is used to stop the enemy's supplies moving along it; to seize his goods, and thus reduce him to such a state of poverty that he is willing to make terms; or as a line of approach by which to attack him in his own territory.

The broad fact remains, *that possession of the sea is a weapon to be used*, and that its value lies in the use made of it.

In the case of Great Britain the issue has been confused because it is a truism that our very existence depends on our supremacy at sea; and yet the sea is only a road to us as to other nations. It is the land that produces the wealth that comes along the ocean path. The difference lies in the significant fact that for us there is no alternative road.

Supremacy at sea is all important to us on this account, and it is right to leave no stone unturned to impress this fact on the nation at large; but those who confound the means with the end are not doing their cause good, but harm. If the foundation is not sound, the building will not be durable.

This false doctrine is not a disease of modern growth, it was diagnosed by writers in the Elizabethan era, they recognized it as a dangerous heresy, classified it under the table of the "Idolatry of the Sea," and earnestly laboured to counteract the mischief produced by it.

I mentioned the loose use of the term "command of the sea" as another stumbling block.

It is the custom to speak of the command of the sea as if it were usual for one or other belligerent to establish maritime preponderance throughout the world, whereas this is a rare, almost unknown state of affairs. We did not possess it in the Revolutionary Wars for many years, nor did the North in the American War of Secession.

A ship has limitations owing to the fact that, although self-contained, she is not self-supporting; ultimately she depends on a base, and her power can only be exerted within her radius of action round that base.

In the era of sailing vessels this radius was defined by physical conditions, such as winds, currents, etc., which controlled the time it took to pass from one sphere to another; now the chief element is coal capacity; but in either case we arrive at the same condition of affairs; one belligerent may attain maritime preponderance in one sphere, and its adversary in another.

OBJECT OF ATTACKING A NAVAL BASE.

I suggest that the following definitions indicate a road out of the apparent *impasse*.

(A.)—An attack on a naval base is an operation of war directly designed to cripple a belligerent's naval force, either by:

1. Destruction of stores accumulated for the use of the fleet; or of docks, workshops, &c., required for the repair of damaged vessels, or
2. The capture of a "fleet in being" sheltering from the assailant's superior forces.

(B.)—This object, whether actually carried out by land or sea, must be considered entirely apart from a hostile descent on territory from overseas with a view to carry out operations against an enemy's land forces, whether the objective of such a descent is simply to inflict damage, to create a diversion, or to conquer a country by invasion.

This is, I shall endeavour to show, by no means mere hair-splitting, but a real and vital difference; the first objective (defined in paragraph A above), distinctively appertaining to naval strategy, may be legitimate during the struggle for maritime preponderance in any area of operations; whilst the second, referred to in paragraph B, can have no direct bearing on this issue, and, if attempted, is unlikely to be attended with any success until the assailant has already attained maritime preponderance.

In making this claim for recognition of the fortified naval base as an integral part of our naval defences, it is most essential not to fall into the error of overstating one's case; and above all not to slur over, or ignore, the arguments advanced by the other side.

We must take as our model not the persuasive eloquence of the advocate, but the balanced summing-up of an impartial judge.

It is worth observing that one of the most determined opponents of fixed defences, Admiral Colomb, in his writings never appears to draw any distinction between naval bases and any other territorial possessions. To him the earth is strictly divided into land and water, and Gibraltar, Malta, or Portsmouth, represent to him only "spots of territory."

If, therefore, satisfactory answers can be found to the arguments of one, who must be acknowledged by all as an extremist, we may fairly claim to have established our proposition.

Admiral Colomb republished his "Essays on Naval Defence" in 1893. One of them contains a most vigorous onslaught on the opinions put forward in a paper read by Captain Stone before the Royal United Service Institution in 1889. Admiral Colomb commences his attack by this quotation from Captain Stone :

"My premise is that the possession of naval arsenals, dockyards, and coaling stations, must practically decide the question of naval supremacy, that such supremacy is absolutely essential to our existence as a nation, and that the way to secure it is to fortify and arm our own arsenals, dockyards, and coaling stations in such a fashion as to enable them to resist an enemy's attack, and at the same time to give a free hand to the Navy to attack those of the enemy with such force as may be available after providing for the patrolling of our principal trade routes."

Most people will agree that the Admiral had some reason to complain, and that the fortresses guarding naval bases have no such claim to prominence; and further that the primary objective of a belligerent is his adversary's fleet, and that a condition of affairs in which each fleet should be engaged in bombarding the other's base is unthinkable.

If, as Admiral Colomb tells us, the Navy laughed in its sleeve, perhaps it was not altogether without reason. But do not his own uncompromising opinions err as far on the other side?

It is not sufficient to expose the fallacy of the reasoning either of Captain Stone, or even of that upon which the Royal Commission of 1859-60 founded its demand for the strengthening of the naval bases. It is quite possible to come to a correct conclusion although your reasoning is based on erroneous data.

This is specially true when an old principle, accepted without question for generations, is suddenly challenged.

Because the fortifications of Portsmouth, Plymouth, and the Medway, will not prevent the invasion of England, it does not follow that they should be left without fixed defences.

COMMUNICATIONS WITH A NAVAL BASE.

Admiral Colomb's objections to fortification are based on the following arguments :—

"Spots of territory," whose water communications are kept open, are immune from attack, if their water communications are cut they must fail; this is true if we add "in time."

It is there that the whole crux of the question lies.

For what does Admiral Colomb mean by keeping the communications open? The only way to ensure that no hostile force passes between the fleet and its base is by marking down, and containing, every unit of the enemy.

Such a thing has never been done, and it seems unlikely that it ever will be as long as a belligerent has several bases open to him.

What we can and ought to ensure is, that no force should be able to maintain itself in such a position long enough to affect the conduct of our own operations.

The essence of successful warfare is to compel the enemy to conform to your own movements; how is this to be accomplished if, instead of being able to devote your whole energy to this end, you are hampered with the knowledge that, if a single unit intervenes between you and your unfortified base, all the material you depend on to continue the campaign is at his mercy?

The Commander-in-Chief of an Army in the field delegates the local defence of his lines of communication and base to subordinates, who, by judicious dispositions, and the employment of entrenchments, secure the supply of the main body against minor enterprises.

When we consider the intermittent communication with its base which is necessary for a navy, in comparison with the constant and uninterrupted flow of supplies vital to an army, and also the choice of roads between front and base open to the former, we see that the chances of success of naval operation against lines of communication increase as we approach the point of departure of the vessels conveying the stores. Not only is there less chance of evasion, but also the sphere of action is further from the main body. If the base stores themselves are equally open, then the greatest gain will accrue from making them the objective.

It may be argued that all this can be provided against by floating defence, and this is true enough provided you can be sure that you can calculate the exact force which can be brought against you, but the endeavour to do this will result in extravagant expenditure on local floating defence which is just as much an anathema to the blue water school as are fixed defences.

I doubt whether such defences are economical, or even if the idea of their employment is sound. You will find no commander of a land base neglect to avail himself of the tactical advantages to be gained by the occupation of physical features surrounding his post; he will also strengthen them by entrenchments, and by these means the object required will be secured

with a smaller personnel than if the garrison were expected to meet the raiders on equal terms.

This is really analogous to the defence of a sea base.

Ordnance, sited in well-chosen positions, have an enormous tactical advantage over the same weapons afloat, and they are not exposed to the same vicissitudes as are those in floating batteries; a very liberal margin of strength will be required to allow for these vicissitudes, if the latter form of defence is to be relied on.

We shall see later on that fixed defences in their proper sphere have so generally acted as a deterrent to attack, that their utility has been overlooked. It is, moreover, because the naval man has rarely known the want of them that he regards them so lightly.

COMPARISON WITH LAND FORTRESSES.

Another argument advanced by Admiral Colomb is the inability of fortified towns to prevent an enemy overrunning a country. He quotes as an instance Metz and Paris.

But does any professional man entertain the idea that this is the aim with which fortifications are erected?

Land defences have their uses although they cannot replace a field army. It is not sound to say that fortifications are a mistake because occasionally an active army gets shut up in one instead of using it as a pivot of manœuvre.

Colomb remarks "Fortified towns may hold out¹ all over the land empire, yet if the armies of the enemy hold the roads between the towns, the towns are bound to fall in due course, and perhaps without attack of any kind."

This is quite true, but equally it is beside the mark; the French experts responsible for the fortification of certain strategical positions are probably as well aware of the fact as Admiral Colomb, but are also well informed as to what is the real object of fortification. Besides delaying the advance of the enemy and thus affording time for the completion of mobilization, and absorbing part of the forces of the enemy in masking them, land fortifications can be legitimately expected to protect the strategical deployment of the Army at the commencement of hostilities; to act as points of manœuvre for the field armies; to protect important junctions in the lines of communication, and to secure dépôts and magazines against sudden surprise by swift moving bodies of the enemy, such as independent cavalry.

Making due allowance for environment, I think it may be shown that fortified bases perform very similar duties for the

¹ Essays on Naval Defence (page 23).

unbeaten fleets of a belligerent fully prepared to take the initiative.

Yet it is not wise to unduly exalt their value without a careful investigation of the reasons for arriving at an estimate.

It is universally admitted that the only way to secure naval supremacy is by possessing a Navy strong enough to crush any combination of possible enemies.

A strong Navy depends on two factors.

- (a) Numerical strength.
- (b) Individual efficiency of the unit.

This latter factor depends in its turn on two conditions—

- (1) Superiority of the personnel.
- (2) Maintenance of the material.

This includes not only provision of supplies of all kinds, but facilities for every kind of repair.

Ceteris paribus the unit which has better facilities for the maintenance of its material in any area of operations will be the more efficient.

These facilities are best afforded by naval bases, suitably equipped with docks, workshops, ammunition, coal, and other supply stores.

The nearer these are to the strategical centre of operations the more value will they possess to a belligerent.

It follows that if the possession of a suitably placed naval base increases the efficiency of a unit, the loss of it will decrease that efficiency: therefore the destruction of a naval base must be a direct blow to the fighting strength of an adversary, and is a legitimate objective to a belligerent in a struggle for naval supremacy: as a consequence the other belligerent must do his best to defend it.

I think it must be conceded that any defences provided to protect the naval base are in reality not a "complement to the Navy" as suggested by Sir John Adye, but an integral part of the naval force.

"LOCAL FORTIFICATIONS AND A MOVING NAVY."

There is one argument of Colomb's that this reasoning does not touch. It is this. To the naval Commander it is immaterial whether his operations are interrupted by the destruction of his base, or by his communications being cut at sea.

In his 6th Essay "Local Fortifications and a moving Navy," p. 177, in criticizing "Captain Stone's postulate of the relations between the fortified base, and the squadron which is attacking the enemy's arsenals," he supposes that an Admiral is bom-

bombarding Brest with 10 battleships, and that he is enabled to do it because his base, Plymouth, is securely fortified.

He then supposes that an enemy's force of 5 battleships cuts his communication by lying off Penlee Point, just clear of the Plymouth batteries.

He argues that in this case the British Commander has no choice but to discontinue his operations and drive off the enemy threatening his communications, and on this he founds the following argument.

"The whole theory of fortifications at the base 'relieving' the naval force falls to the ground.

"Plymouth, separated from him, is as bad to him as Plymouth destroyed, and the threat of separation governs his conduct in precisely the same way as the threat of destruction does. As far as I can carry my reasoning powers, this hypothetical case is conclusive, and it governs the circumstances of every open port which is fortified.

"There remains no ground for saying that the fortification of a port, which it is necessary to keep open, will in the slightest degree relieve the naval force.

"But suppose Plymouth in this case to have no fortifications at all. What then? I imagine it will be said that 5 battleships would steam up and destroy the dockyard, and so do a permanent injury instead of a temporary one.

"If so the Brest fleet must still come home just as before, and therefore there is no effect on the fallacy that the fortification of the base, or open port, will relieve the naval force.

"But an inner question arises as to whether 5 battleships would steam up and damage, even if it were entirely unfortified? Naval history as far as it goes, is conclusive with a negative answer. It tells us that the neighbourhood of a possibly interfering naval force is a complete bar to any attack on the shore whatever."

It appears as if the author, in order to let down the landsman as lightly as possible, has accepted an incomplete state of affairs on which to found his argument.

It is not possible to appreciate a situation without a knowledge of all the factors affecting that situation.

Before we can imagine a British fleet bombarding Brest, we must know what has become of the fleet based on that port. If inside there is a fleet "in being" of say eight ships, then it is fairly certain that the English fleet will be employed in watching and not in bombarding, and further that the enemy's aim will be to get that fleet safely to sea in order to effect a junction with the remainder of his forces, or for some other ulterior design.

If the foreign fleet is unbeaten and at sea, then the Admiral would not be watching Brest at all, unless another English fleet strong enough to destroy the enemy is told off to deal directly with him. We must therefore assume that an inferior fleet is in Brest; not very inferior, for no more than the minimum number requisite were ever told off for the duty of observing; the object was invariably to tempt the enemy to sea.

In that case to lose touch with Brest would be to play the enemy's game. Would a hostile force, temporarily interrupting communications with the English fleet off Brest, really necessitate the latter's return to drive the former off?

I think the answer must be in the negative, because any fleet must be self-supporting for a short time.

The true solution seems to be that the setting of the chess board is incomplete. No strategist in chief could have sent a fleet on such an errand unless he had forces at his disposal capable of neutralizing all those of the enemy; and, if the base is safe for a limited time, they will inevitably be called into play, and the line of communication again established.

It must be remembered that, besides the stores, ammunition and docks, the safety of which is a most important asset to the supreme director of the Navy, whatever it may be to the Admiral at Brest, Plymouth must contain a proportion of the fleet off Brest, for it is an axiom that a blockade cannot be maintained without reliefs. These ships, in dock, or refitting, cannot protect themselves, and yet their loss might necessitate the permanent abandonment of the blockade. I cannot therefore imagine the authority ultimately responsible for British strategy as a whole taking the chances in leaving Plymouth defenceless.

It is, however, with the last paragraph of the quotation from Admiral Colomb's essay that I join issue. I propose to show by instances drawn from naval history that the assertion that "a possibly interfering naval force" is not a complete bar "to any attack on the shore whatever," unless naval bases are expressly excluded, though as regards our home ports history must of necessity be silent, as they have been fortified from the earliest periods of naval warfare.

II.—INFLUENCE OF FORTIFIED BASES ON NAVAL STRATEGY.

Having now indicated some of the difficulties surrounding the question of the utility of fortified naval bases, the time has arrived to formulate their claims to influence on naval strategy.

I shall endeavour to show—

1. That the distinction I have made between attacks on naval bases, and descents on territory is sound, although not

generally recognized by naval historians, or even by our own regulations.

2. That in planning a naval campaign the strategist must perforce take into consideration amongst other factors, the geographical situation, strength, and other peculiarities of the naval bases belonging to either side; and that they will have a marked effect on the strategical dispositions adopted at the commencement of the campaign.

3. That during the progress of that campaign the influence of naval bases will continually make itself felt, sometimes directly, sometimes indirectly; but always as a force that it is impossible to ignore.

4. That the protection of naval bases, primarily by fixed armament, is a sound policy, because it is the most efficient, as well as the cheapest and most durable method that can be adopted.

THE EVOLUTION OF NAVAL WARFARE.

Let us now glance at the evolution of naval warfare as a separate branch of the military art, and see whether any arguments can be deduced from the examination to support my theory.

In the middle ages, naval architecture was in a primitive state, consequently long voyages were almost an impossibility, and sea borne commerce was of little importance, territories beyond the oceans were hardly dreamed of, and European interests were confined practically to our own Continent.

The attention of strategists was centred on the land, where alone decisive pressure could be brought on rival states.

In those days warfare was essentially a land operation; the vessels being merely the vehicle to convey the combatants to the scene of action; even if the belligerents encountered each other on the seas the conflict was in all essentials a land fight.

Moreover the principles of strategy were often subordinated to other material considerations.

States were mostly small, and revenues inelastic. War therefore when undertaken had to be made immediately profitable in order that the requisite forces might be maintained in the field. Then again the majority of fighting men were purely mercenaries, and had no real desire to cut short their time of harvest.

For these reasons history records a series of raids and counter raids undertaken with apparently little ulterior object beyond petty damages and plunder. Whether carried out by land or sea such expeditions contain few lessons for the student. A fairly high state of civilization, including a powerful central government, seems indispensable for the development of scientific warfare.

At this period there seems to have been only one class of fighting man. The origin of the sailor as a new variety of the species has been traced to the growth of the sailing ship as a new weapon of war, which could only be used to the best advantage by the specialist, who thoroughly understood its capabilities.

When the sailing ship had developed sufficiently to keep the seas for lengthy periods, new conditions arose.

Oceans were crossed, discoveries of new lands made, with the result that commerce received an enormous impulse, and the oceans over which wealth poured into the old countries afforded a rich harvest to those who attained the necessary skill to make use of the new weapon.

Wealth at sea called for protection, and forces were sent out to prevent plundering as well as to plunder.

Under new conditions, strategy dictated such different dispositions that it appeared to the student that warfare conducted by sea and land were two totally different arts. In reality the broad principles remained the same; if the landmen failed to arrive at the true solution it was because one of the factors, that involving a knowledge of the value of the ship, was an unknown quantity to them, and not because there was one strategy of the earth, and another of the water. Anyone who upholds this latter idea will be called on very shortly to admit of the existence of a third strategy—that of the air.

THE PROTECTION OF COMMUNICATIONS.

It is equally true in warfare, either by land or sea, that the best method to protect one's base and lines of communication is to cover them by the operations of the main body.

The idea of blockading an enemy's ships in his own ports is merely the development of this principle by the naval specialist, who recognized that the enemy was most easily found and contained at his point of departure.

This, however, only became possible in comparatively recent times when naval architecture had gradually improved its weapon (the ship) sufficiently for it to maintain its position in spite of ordinary bad weather.

When this improvement enabled him to carry it out, it was the sailor's part to adapt to his immediate environment the general strategic law recognized from the earliest dates of civilized warfare.

It has been ever thus, the brains of the thinker are always in advance of the practical manufacturer. The advantages to be obtained from breech loading rifled guns were known many years before any practical application could be made of the knowledge. The inventor had to wait until metallurgy and

machinery had advanced sufficiently to realize his dreams. So with the submarine.

The flying machine is an even better example of my meaning. Attempts at flying date back to mythological ages, but it was only with the advent of the petrol engine that the inventors' ideas began to assume a concrete form.

The men who were making history, were as a rule too busy to record the principles on which they worked.

If, when the specialist subsequently turned to the task of deducing principles as a guide to the future, he only found plain narratives unaccompanied by any reasons for the various moves; it is not to be wondered at that he considered he had formulated fundamental laws, special to his own service.

The seaman who arrives at the conclusion that territorial attacks cannot be successful until the "Command of the Sea" is secured, has not in fact elucidated a new strategic principle.

The sea in this case affords the lines of communication.

In land warfare lines of communication must be secured, and success or failure often turns on the skill with which the operations of the main force conduce to this object.

As that part of the lines of communication which cross the water can only be attacked or defended by ships, it follows that the Navy of the offensive force must contain that of the defence, but this is all that is meant by securing the "Command of the Sea," so we see after all the "Command of the Sea" theory is nothing but the strategic principle, as old as civilized warfare, though the tactics adopted to carry it out are founded on accumulated naval experience.

NAVAL AND MILITARY OBJECTIVES.

If, in this struggle for maritime supremacy, the naval commander finds that he can best attain his object of crippling the enemy's naval power by burning his stores, destroying his dockyards, or sinking his ships in harbour, that is a naval operation, just as much as if he fought a fleet action on the high seas. If in pursuance of his objective he finds it less costly to land his sailors does it alter the status of the action? I think not. Again, if he carries with him in transports a body of men trained to fight on land, is the objective any the less naval?

The objective and not the means adopted, settles the category in which the operation must be included.

For instance, the siege of Port Arthur, undertaken directly to destroy the Russian Pacific Fleet, in order to prevent its future junction with the Baltic Fleet, was a naval operation, and cannot be justified on any other grounds; whereas when Nelson sent his sailors and marines to Capua from Naples he

was undertaking a land operation. His objective, which was to drive the French out of Neapolitan territory, was distinctly non-naval.

You cannot draw an arbitrary line between naval and military action at the 5 fathom line or at high water mark.

Let us apply the test of Naval History to these deductions.

It is wise to lay down clearly the information for which one is seeking. This may be stated as narratives of operations conducted against a Coast Fortress under the following conditions:—

1. The naval commander must be one of the first rank.
2. The objective in view, a definite advantage to the Navy.
3. The period, one in which the maritime supremacy is not assured.

If we can cite a sufficient number of incidents answering to this description to counter the argument that the circumstance was a special one, we may then conclude that the hypothesis is proved on the principle of the *reductio ad absurdum*; for if action under these circumstances against Coast Fortresses must be classed under the same category as invasion of territory, then the very strategists, on whose authority the teaching of Naval Historians is based, frequently acted in defiance of those fundamental laws we are taught they established.

As, however, an examination of a campaign for such a purpose must of necessity also offer opportunity of studying the part played by Naval Bases, both prior to, and during hostilities, to confine oneself to the consideration of my first proposition apart from the remainder would entail needless repetition.

I shall therefore call attention to the deductions that I wish to draw from the narratives as we proceed.

It will be noticed that I have departed from chronological order in arranging my historical proofs.

My reason for so doing is that, it is only when the coast fortress is recognized as an integral part of the navy, its influence on naval strategy can be viewed from a correct standpoint.

I have selected the period at the commencement of the Revolutionary War as my first example, on account of the instances of active operations against coast fortresses afforded by this epoch.

EXAMPLE 1: THE MEDITERRANEAN, 1793.

(a) Toulon.

On August 27th, 1793, Lord Hood gained possession of Toulon owing principally to the efforts of the strong monarchical party amongst the inhabitants.

The French fleet, however, to a large extent remained Republican.

Rear-Admiral St. Julien had manned the forts on the left side of the harbour; but, as the English seized those on the right side, which commanded those on the left, the French sailors evacuated the works and escaped into the interior.

During the period Toulon was held by the allies the French cruisers, which were not handed over at Toulon, used the Corsican ports as a base. Nelson was put in command of a squadron of frigates to look out for them. The fortifications of San Fiorenzo, where they lay, afforded a complete bar to any attempt on them.

Toulon was evacuated on December 17th, and almost immediately Lord Hood concentrated his energies on the capture of the Corsican ports.

(b) San Fiorenzo.

Commodore Linzee had made an unsuccessful attack on San Fiorenzo in October, in which his three line-of-battleships, two 74's and one 64, were roughly handled.

Owing to various accidents, on the recovery of Toulon the French Government regained a great part of their fleet, including 17 line-of-battleships. Corsica was of great importance to them, as it furnished wood, tar, and many other naval stores which they could not import from the Baltic.

Hood's object was therefore two-fold; not only to secure a base for his own command, but to deprive the enemy of the stores he needed to refit a formidable fleet.

An attack by land and sea was therefore undertaken against San Fiorenzo.

"On the 7th February, 1794, troops in number about 1,400 disembarked, and took possession of a height which overlooked the tower of Mortella, the first of several strong positions necessary to be reduced, before the anchorage of the W. side of the Gulf of San Fiorenzo could be made properly secure.

"An attack against the tower by land and sea, was decided upon, and on the 8th the 'Fortitude' (74) and 'Juno' (frigate) anchored in the best manner for battering it with effect. After a close engagement which lasted for two-and-a-half hours the ships had to retire, the 'Fortitude' badly damaged.

"The battering from the height on shore had been as unsuccessful as that from the ships, till some additional pieces were mounted, and hot shot used; when one of the latter, falling among, and setting fire to, the bass junk, with which, to the depth of five feet, the immensely thick parapet was lined,

induced the garrison, 33 only in number, and of whom two were mortally wounded, to call for quarter."¹

The tower mounted two 18-pr. and one 6-pr.

The Convention redoubt, mounting 20 pieces of ordnance, and considered as the key of San Fiorenzo, was taken after being cannonaded for two days from a battery erected, and armed with incredible exertions, on a height 700 feet above the level of the sea.

The fleet thus gained a secure anchorage in Mortella² Bay, and eventually the French abandoned San Fiorenzo, without further fighting; burning one, and scuttling the other frigate sheltering there.

The incident shows the relative power of artillery suitably sited on shore and afloat in ships.

It also carries a very important lesson to us of the danger of land attacks.

The *Diary of Sir John Moore*, edited by Major-General Sir J. F. Maurice, contains some hints worthy of the consideration of those entrusted with the defence of a coast fortress.

It must be remembered, the works existing in October, 1793, had repulsed an attack from the sea made by a squadron of battleships.

Sir John Moore in the middle of the following January was sent to Corsica "to report from observation on the spot how far an attack on that island with our small military force was practicable" (p. 42). He writes, "We were employed the whole of the next day in reconnoitring the position of San Fiorenzo and its neighbourhood. Our escort of about 40 or 50 volunteers had a little skirmish with a party of the enemy," so that the French must have been aware that some action was being contemplated.

On the 26th January he was able to render a clear and concise report to Lord Hood and Lieut.-General Dundas.

It ran as follows :—

"The first object appears to be the possession of Martello Bay for the security of the fleet, and to enable it to effectively co-operate with the Army when landed. The works which defend the Bay are a stone tower with two or three light guns (4-pounders) at Martello Point, another of the same kind at Farinole. The fort of Farinole consists of a strong battery immediately under the tower and a redoubt open in the rear, lately erected upon a height between the towers of Martello and Farinole."

¹ James's "Naval History."

² The tower of Mortella is supposed to have furnished the seal pattern for the numerous Martello towers erected on the English coast.

"In the last there are four guns of different calibres; 150 or 200 men from the garrison of San Fiorenzo guard these different works. They are chiefly designed to act against shipping, but are commanded by heights in their rear. If these are occupied by cannon the works must be abandoned. The road leading to the heights has generally been thought impracticable for cannon. It is, however, by no means so for light guns or howitzers. I annex a detailed plan concerted with General Paoli for the attack on the works of Martello, by landing a body of 500 men with light field pieces at the northern point of the Bay, and marching by a path, which has been reconnoitred, under cover of the hills to a place called Vechiagia, which commands within a few hundred yards the new redoubt and the tower of Tornoli."

When the attack was determined on, Sir J. Moore (then Lieut.-Colonel Moore) was in command of the landing party. He says:—

"My orders were to march to Bocca Fattojagi, and, from the heights in that neighbourhood, which overlook the enemy's works, fire upon them with the 6-pounder and howitzers, and then attack them with the infantry.

"I reached a small plain at the foot of the hills, from which the Bocca, about twelve at noon Major Pringle and Captain Stewart ascended the hill with me, and we reached a point within 1,400 yards of the enemy's works."

Sir J. Moore then proceeds to relate how mortified he was to find how greatly the defences had been strengthened since he had reconnoitred them three weeks before; but from his enumeration of the additions we can see that the chief anxiety of the enemy was directed against attack from the sea.

No works crowned the heights, which do not appear to have been held even by picquets.

The result was disastrous enough to the French then, but in these days of long-range small arms an unfortunate garrison in the same plight will not be allowed any respite on account of the difficulties of transporting ordnance.

It will be also advisable for us to ponder on the carefully-thought-out plan which enabled the attacking party to occupy the key of the position so quickly that the fate of the fortress was sealed from the first; a very different procedure from the haphazard dash which is popularly associated with an attack from a squadron.

Future wars may produce men just as efficient as Sir J. Moore.

In most fortresses there is some dominant spot, which, if seized by the enemy, will render the rest of the position untenable.

It seems a matter of common sense that no effort should be spared to prevent such a key being occupied by a *coup de main*.

This can only be done by detailing a special garrison, and strengthening the post by suitable works.

Fortresses, being permanent, we must be prepared to find that the enemy has an accurate knowledge of the terrain, and will find his way to the spot, with the utmost celerity even at night, when extemporized field works and obstacles are of little value, owing to the difficulty of keeping up an accurate fire.

The value of a permanent obstacle lies in the fact that heavy material such as scaling ladders or fascines become a necessity, and the difficulties of a surprise by a small party are at once enormously enhanced.

Such material has not only to be prepared beforehand, and even then may be unsuitable, but the conveyance to the spot by a landing party is a serious undertaking, and inevitably makes for delay, as well as increasing the size of the party, and thereby rendering discovery easier.

To anyone on whom the task of directing a defence, even in manœuvres, has fallen, the arguments against the employment of a citadel, so strenuously urged by Admiral Colomb, will not appeal.

The task of collecting decisive strength in sufficient time to oppose such an attack under modern conditions is enormously enhanced, and the wear and tear, owing to suspense and uncertainty, is all against the defenders.

This is a most important point, because it is this systematic fortification which Admiral Colomb specially attacks in *Naval Warfare*, p. 223.

It is impossible to attempt any criticism without quoting at length; there is no such danger of misrepresentation in short extracts without the context. I therefore give the whole passage I am alluding to.

"It seems to have been understood that direct assault from the sea was so inherently difficult, that very slight works guarding against it would always turn the direction of the enemy away from that kind of attack, to one more certain and more easy from the land side. And this being so the idea of a 'citadel,' descended apparently in a direct line from the mediæval 'keep,' seems to have nearly always governed the system of fortification adopted.

"This policy of preparing a complete fortress as a citadel, supposed to stand investment and siege, obviously presupposed the occupation by the enemy of the surrounding country, and therefore assumed that his hands would be left free for whatever ravage and destruction could be compassed.

"This condition again implied the presence on the territory of an enemy's force superior to the garrison, for if the force landed were inferior to the garrison, it would be met and beaten before it was able to ravage and destroy; unless, indeed, its operations were so swift that they could be conducted before the garrison was able to put in an appearance.

"The provision of a citadel, therefore, presumed the successful landing of a superior force, and did not presume power of preventing destruction and ravage beyond a very small area surrounding the fortress.

"But it assumed the possibility of so delaying the final success of the enemy that either relief might come, or that the supply and reinforcement of the enemy might fail, before the fortress fell, and in that case the garrison recovered the possession of the territory.

"The citadel, however, if it was found competent to hold out until relief came, or the enemy's supplies failed, might prevent material ravage if all that was most precious and most necessary to preserve from ravage were assembled inside the citadel, or within the area protected by its guns.

"The existence of such an arrangement would naturally tend to preclude attack unless there was ample time for the reduction of the fortress by the usual methods.

"But this is only another way of saying that the heart of the invaded country lies in the citadel.

"If it is otherwise, and occupation is intended, and the country may be held without the possession of the citadel, the latter may be neglected, as it will fall by the mere lapse of time.

"An apposite reflection may here be made. If the possession of the citadel involves the possession of the territory, and it falls, the new possessors of it become as strong as the old ones. In other words, any defence of this kind—as we shall see in many examples—cuts both ways."

"A place difficult to take is difficult to retake, if the defence is fixed on land; but a place depending on Naval force for its defence, that is to say a place difficult to take in the presence of Naval force, and only to be possessed by the holder of superior Naval force, may be much easier to retake than to take, as the Naval force which allowed the capture may prove inferior to that which comes to re-capture.

"The superior Naval power may suffer more prolonged losses of territory which he has fortified and garrisoned, than of territory which he has only garrisoned, and which is without a citadel.

"The Naval defence, that is the command of the sea over which alone a hostile approach can be made, is therefore on

all grounds the most perfect. Apart from it, the territory can only be protected by a garrison, or a garrison with a citadel.

"Supposing a temporary loss of command of the sea, conquest of the garrison may be made by landing a superior force. On resumption of the command of the sea, and consequent stoppage of reinforcement and supplies to the new garrison, the territory is easily re-taken."

"But if the new garrison has possessed itself of a supplied citadel the task of re-capture becomes as much more difficult as the works of the citadel have added to the resisting strength of the new garrison."

"Supposing the superior Naval power admit the possibility of forces being landed on portions of its territory, it may be a question of policy whether the citadel as a substitute for a stronger garrison—which is its real character and office—is really a wise and economical institution."

"But we shall hardly avoid the conviction, I think, especially after a study of West Indian history, that command of the sea is the only real defence for territory which can be captured by expeditions over it."

"Whether our forefathers, or forefathers' enemies, wisely spent their money over garrisons and works which generally failed when the time came, rather than over simply driving the enemy off those seas, and keeping them out of them by a superiority of Naval force, which never failed, is perhaps a question not to be determined as long as we are unaware of the relative proportions of the sums so spent."

"If the garrisons and works were wholly insignificant in cost compared with the sums spent on the endeavour to obtain and keep the command of the sea, we might possibly say that the minority of instances in which garrisons and works prevented the West Indian Islands from changing hands justified the policy."

"But if the former expenditure bore any considerable proportion to the latter, it might be possible to found an argument on the other side."

The first point which strikes one in the above passage is the total absence of recognition of the use of the fortress as a naval base.

The author admits the possibility of a temporary loss of command of the sea, but still objects to the fortifications because it may make the fortress harder to re-take when the command is recovered.

The reflections at once arise in one's mind: Need the fortress fall at all if properly fortified, garrisoned, and provisioned?

Would not the difficulty of re-establishing command of the sea be greatly enhanced by the loss of the base, with its stores, docks, sheltered anchorage, etc?

What would be the difference in loss of national wealth, and what would be the material result to the unfortunate people whose livelihood depended on the possession of the naval base during these transfers alluded to so lightly?

The successful defence lies in the activity of the garrison; but it is by artificially strengthening tactically-important positions that we free a large proportion of the garrison for offensive action.

The question whether all, or even one, of the Corsican ports would have fallen had the San Fiorenzo heights been effectively held, is too big a question to discuss exhaustively; involving as it does a very close study of the war in the Mediterranean till the evacuation of Corsica in 1796; but we may note that there is ample evidence on which to base a fairly strong argument.

We know that it was impossible to enforce a strict blockade on all the three ports at the same time, so that it was improbable that they could have been forced to surrender by starvation alone.

Before Calvi fell in August, Hood was deeply anxious about the activity of the French fleet, and Moore (*Diary*, Vol. I, page 119), wrote, "had the siege been protracted but ten days longer sickness must have obliged us to give up the attempt."

Whether the operations could ever have been resumed if once abandoned is very doubtful. The French fleet gradually improved as regards relative strength during 1795, and the French partisans amongst the Islanders made headway; the British fleet would, in the meantime, have suffered for want of the very base it was striving to acquire.

(c) Bastia and Calvi.

Lord Hood next turned his attention to Bastia.

We are not concerned with the account of the unfortunate disagreement between the two services: my object is to draw attention to the opinion of one of our great naval strategists as to the necessity of gaining possession of a coast fortress by active operations. It is summed up in the following letter to General Dundas, which was in answer to one written by the latter objecting to undertake the siege until he had received the reinforcements he thought necessary:—

"However visionary and rash an attempt to reduce Bastia may be in your opinion, to me it appears very much the reverse and to be perfectly a right measure, and I beg here to repeat my answer to you, upon your saying two days ago, that I should be of a different opinion to what I have expressed, were the responsibility on my shoulders, that nothing would be more gratifying to my feelings than to have the whole responsibility

upon me, and I am now ready and willing to undertake the reduction of Bastia at my own risk with the force and means at present here, being strongly impressed with the necessity of it."

Bastia eventually surrendered after a land siege of 37 days, and Calvi, which was subsequently attacked, after 51 days, on August 10th, when two more French frigates were surrendered.

(d) *Gourjean Bay.*

During this period the French fleet was more or less active. Seven sail of the line, one 120, two 80's, and four 74's, and four or five frigates put to sea on 5th June, and Lord Hood went in search of them with 13. On this the French took up a position in the defended anchorage in Gourjean Bay, where they were too strong to be attacked.

I quote as my authority Nelson himself, *Nelson's Despatches*, page 495, Vol. I.:

"*Agamemnon*," October 10th, 1794.

Off Gourjean Bay.

To--

Captain William Locher,

Lieut.-Governor Greenwich Hospital.

"The French ships in the Bay are so fortified, that we cannot get at them without a certainty of the destruction of our own fleet.

"At Toulon six sail of the line are ready for sea in the outer Road, and two nearly so in the Arsenal.

"When 'Victory' is gone we shall be 13 sail of the line, when the enemy will keep our new C.O. in hot water, (Hotham) who missed, unfortunately, the opportunity of fighting them last June."

Vice-Admiral Hotham with nine ships of the line, one of 100, two of 98, and six of 74, was left in observation, and Lord Hood returned with the "Victory" 100, one 98, and two 74's to press the siege. It is worthy to note that large numbers of sailors were employed on shore, although Lord Hood's correspondence during the period reveals his anxiety about the activity of the French fleet.

This seems a positive proof of the great importance that he attached to the possession of the place. His reasons appear to have been (1) It was too near his own selected base to allow it to remain in hostile hands, and (2) The importance of denying a base to the enemy may be as urgent as the acquisition of one for oneself.

In this connection Nelson's letter to the Viceroy of Corsica regarding the necessity of denying Ajaccio to the French is instructive.

*To the Right Honourable Sir Gilbert Elliot,
Viceroy of Corsica.*

"Agamemnon," San Fiorenzo.

November 10th, 1794.

"My dear Sir,

"As I have been sent by the Admiral to examine into the state of the enemy's fleet at Toulon, I think it will be acceptable for your Excellency to have a copy of my report, more especially as it is given out that Corsica is the object of their attack, and very many in our service believe it. I own myself of a different opinion. Neither Calvi, San Fiorenzo, or Bastia can be attacked by them, unless—what I hope no Englishman will credit—that they are able to beat our fleet. We know from experience that an army thrown ashore without the possibility of being supported by a fleet to land all the requisites for a siege (which are many), however numerous they may be, cannot subsist long in an enemy's country. The Corsicans, if we keep them out of fortified places, would harass them to death.

"I shall take this opportunity of saying a word of Ajaccio. If the enemy have an intention of getting a hold in Corsica, that is the place they will attempt: and should they succeed we shall find it a difficult matter to drive them out again. I never was there, but it strikes me that by numbers landed, and the appearance of their fleet for a few hours they may succeed: for I believe the Corsicans understand nothing of the art of defending fortified towns.

"You will, I am sure, receive what I am going to say, as it is meant, well, and believe that all my wishes and desires are to see our country successful, and the schemes of our enemies frustrated.

"I am well aware it may be said, and with truth, that we have not troops in the island to defend any one place properly: I admit it; but in answer I say—and am satisfied in my mind that it will turn out so—if the enemy make an attempt, that a few troops and artillery stationed at Ajaccio, to keep the gates shut for a few days, would render abortive any schemes they may have for establishing themselves there. I think 300 men, and some artillery to keep the guns in order, to which, if a guardship were added, the seamen, in time of need, could go on shore and man the works (for if the enemy get Ajaccio, they may lay there with their whole fleet or leave a single frigate, neither of which we could attack; for in the Gulph there is no sounding, and a sea setting constantly in, which would make us keep at a distance).

"With this defence, I am confident the place, and I believe I may say the island, would be perfectly safe, till our fleet could get to the enemy, when the event, I have no doubt, would be what every Briton might expect: besides, we have the incitement (if any is wanted) of our Home Fleet (Victory of 1st June) and we shall not like to be outdone by anyone.

"I have taken the liberty of mentioning my idea of the importance of Ajaccio, only in the belief which I have, that your Excellency will receive it as a private communication (my situation does not entitle me to give any public opinion on such a point); as such I send it and shall be happy if it gives rise to a serious consideration of its importance, when I doubt not much more proper modes of defence and security will be thought of than I have suggested.

"But however that may be, I am bold to say, none can exceed me in the earnest desire of serving well my King and country; and of convincing your Excellency how much I am, on every occasion, your most sincere humble servant,

HORATIO NELSON.

This letter indicates so clearly the strategical advantage Nelson considered to be inherent in the possession of the port, and his belief in the value of fortifications.

Altogether this period of history appears to afford so many contradictions to the school of extremists that it is specially valuable.

We see first the safety of an inferior fleet secured, first by Toulon, and then by Gourjean Bay.

Secondly, we see this fleet enabled to compel the superior to take up a position at a strategical disadvantage.

Thirdly, the efforts of the superior fleet to improve its position by seizing a suitable base, and the consequent employment, not only of land troops, but of considerable drafts from the ships themselves, in actions which Admiral Colomb classes under "territorial attacks," and these operations continued in order to deprive the inferior, but still active, enemy of a well-placed advanced base, which might prove a useful asset in the contest for which he was then preparing. We also get an idea of the fallacy that such command of the sea can be acquired as to cause advanced bases to fall without attack; at all events as long as one force, based on impregnable harbours, declines to commit itself to a fleet action.

Finally we get a good, but not exaggerated, example of the relative value of well-sited land batteries in action against ships.

(To be continued.)

THE "HIGHLAND EMIGRANTS" AND THEIR COMRADES.

[*Being an Account of the Siege of Quebec, Canada, in 1775-6.*]

Compiled by CAPTAIN R. E. KEY, York and Lancaster Regt.

(See map facing page 1262).

HISTORY has assigned to every person a significant position in the construction of the Empire. No work is unnecessary, no effort meaningless. Our ancestors have sown what we are reaping, and we in turn sow for those who are to follow us.

This short record of the Highland emigrants who colonized Canada in the 18th century, will remind all who admire the steadfastness and grit of the early settlers of the debt we owe to them, for in no other people can we find such qualities as in those hardy Scotsmen, who carried with them the freshness and energy of their highland homes, and bequeathed high ideals of duty and patriotism to succeeding generations.

If one could look now across the continent of Canada, and watch the busy freight trains bustling towards the seaports, or if one could hang suspended over the whole Dominion and see how the area of cultivation increases day by day, it would be surprising if our thoughts did not instinctively turn to a period when the Indian was lord of the soil, and only a few frightened white folk were huddled together in wooden block-houses along the waterways.

The French were the first to colonize this new country in 1535, and until the defeat of Montcalm before Quebec in 1759 they had held undisturbed possession. Such a continued association takes long to obliterate by subsequent immigration, and although the races have freely intermarried and intermingled, there are even to-day families living around Murray Bay who bear the names of Scotch emigrants, but who are yet unable to speak a word of any language but the French.

In the spring of 1775 the bubble of revolution in the American States was ripe for bursting. During April an affair at Lexington had driven the King's forces back into Boston. In June the inglorious battle of Bunker's Hill had been fought, and to make matters worse for the British Government, George Washington, the ablest of Americans, had been appointed Commander of the rebel army.

The British troops were strongly entrenched in Boston, and practically unassailable by the poorly-armed insurgents; while

on the other hand, no forward movement could be ventured on the British side, on account of the tactics employed by the Americans of drawing away their opponents into difficult country, there to surround and capture them.

When the red-coats retired into Boston the revolutionists for the moment had no outlet for that aggressive spirit to which the first blood-letting had given birth. The invasion of Canada had already been contemplated, but not until a robbery of the King's mail disclosed the fact that only 700 troops held the Dominion, was the plot matured. Volunteers were soon forthcoming, and in August, 1775, the invasion was entrusted to two leaders—General Schuyler (who was shortly after succeeded by Brigadier Richard Montgomery) and Colonel Benedict Arnold.



The two latter were men of varied military experience and qualities, though perhaps a trifle too confident of their own abilities, and a little thoughtless of the immense difficulties which must be encountered in the long journey northwards through inhospitable country, which had hitherto been traversed only by the Red Indian or lonely-living fur trader.

Richard Montgomery set out in August, 1775, from Ticonderoga, in command of 1,500 men, with the intention of attacking the garrison at Montreal preparatory to a final advance on the Capital at Quebec, where he was to join forces with Colonel Arnold, who was to move north and eastwards along the rivers Kennebec and Chaudière.

The eastern march under Arnold was undoubtedly severe, although authorities differ as to the degree of its severity; some

saying that no unusual difficulty was encountered, whilst others definitely state that the region was trackless, and food so scarce that even the dogs which followed the column were eagerly devoured. The men, it is stated, were starved and footsore, and numbers unable to keep up were left where they lay.

Arnold was a man of pluck and determination, though, like many of his contemporaries, somewhat of a boaster and unable either to act up to the expectations of his followers or to his own assertions.

A leader of irregulars must be a man whose personality is especially strong, or whose genius is such that his followers have absolute confidence in his success. The spirit of discipline is not natural to men who have followed a varied career of farming, seamanship, and soldiering. An independence is bred in the character of such men, which makes it difficult for them to obey a single leader. The more diversified the occupations of a body, the more difficult it must be to obtain cohesion and unity of action.

There can be no doubt that Arnold possessed qualities above the average, but his men were difficult to deal with, and, after the sufferings they had undergone in the backwoods of Maine, he had already over-tried their strength, and in consequence the fighting quality of his force was much impaired.

On September 12th, siege was laid by Montgomery to St. John's (a large fortified post), stoutly held by 568 regular troops and 686 Canadians. The Americans, finding that little impression could be made on the fortress for want of siege guns, turned their attention to Chambly, a post lower down the river containing a small garrison of 150 men. The commander made a poor resistance, and the post was soon captured, enabling the invaders to annex a supply of powerful siege guns which quickly brought about the fall of St. John's on November 3rd, 1775.¹

One after another the fortresses and defended posts went down before the conquering Montgomery, who continued his triumphal march to the very walls of Quebec.

It is interesting to consider the situation. The vast territory of Canada invested eastwards and westwards by invading armies; every town with but one exception in the hands of the Americans; the regular troops prisoners; the country people (mostly French) apathetic and in favour rather of invaders than invaded, but waiting to offer their loyalty to whichever party would be strong enough to fly the conqueror's flag.

We certainly owe Canada to the Scotch. Had it not been for the Highland Emigrants, Quebec would have fallen, and had Quebec fallen the British prestige west of the Atlantic would have ceased to exist.

¹ The prisoners included 259 Royal Fusiliers, 208 26th Regiment, 68 Royal Artillery, 15 Royal Navy, and 18 Highland Emigrants.

We too often think the laurels of victory hang upon chance; a few shots, a brilliant charge, a great sacrifice—but it is not so. Individual character is the most powerful of all weapons, and has won every British victory and founded every colony.

The British leaders in Canada were well able to hold their ground in character. The Governor, Sir Guy Carleton, afterwards Lord Dorchester, was a man of exceptional ability. Born in 1724, he was then (in 1775) 51 years of age, and a leader who in every respect was worthy of the name. The number of troops under his command was insignificant. Exclusive of militia, there were only two regular British battalions in the country, the 7th and 26th regiments of Infantry, 859 of all ranks, besides 130 Royal Artillery, making a total of 989 officers and men. Many of these were scattered over the country in small detachments, of which the greater part had already fallen into Montgomery's bag.

The principle of small posts for guerilla warfare is often an unfortunate necessity.

To scatter troops is unwise, but sometimes unavoidable, and General Carleton cannot well be blamed for distributing his force so widely along the frontier line.

The long arm of colonization already stretched half-way across the continent, and it was therefore impossible to concentrate troops at strategical points whilst an inadequate number was at the disposal of the Commander.¹

One by one the small posts had fallen to the Americans, until toward the close of the autumn Quebec alone could fly the British flag. What a feat of leadership to bring back all this conquered territory under British influence!

The position in the early days of November, 1775, was as follows:—

Montgomery invading from the west, Arnold from the east, Carleton, the British Governor, falling back eastwards on Quebec, his last and only stronghold.

It must not be supposed that the invasion was a surprise to the loyalists. On the contrary, for several months preparations had been made by raising men and by collecting stores.

The mobilization of troops under conditions such as existed in these early colonial days was extremely difficult. The colonist was too busy earning his daily bread, and protecting wife and family from the Indians and wild animals, to care for further encounters. He lived by incessant fighting and with ceaseless toil. Absence from home meant a danger to his homestead, and home ties are specially dear to the man whose daily round so often brings him to the face of death.

¹ The frontier of Canada is as much a problem to-day as it was in 1775, a problem only to be solved by a unity of interests in the Dominion and the States.

When troops were required in these troublous times it was the custom to select a man of position and experience who was willing to undertake the raising and equipment of a corps. Usually a sum of money was voted by the authorities, though not infrequently the greater part of the expense was borne by the gentleman, who took the rank of Colonel, and clothed, equipped and drilled his men as pleased him best. The letter authorizing the enlistment of a new corps was called "The Letter of Service," and was issued from the Government to the individual officer concerned.

We have said that a number of the colonists were Scots by birth, for after the rebellion of 1745 a cloud of wooden ships was borne across the Atlantic with load upon load of emigrants who had been driven from their own country by the stirring times of "'45." Among them was a gentleman named Maclean (Colonel Allan Maclean, of Torloish), a soldier of fortune, who had spent many years in the rough-and-tumble fighting of those times. From the Scots Brigade in the Dutch Service of 1747 he had fought his way to a company of Montgomery's Highlanders, with which he went to America and there saw incessant fighting for several years. In 1761 he was appointed Major of the 114th Royal Highland Volunteers, which corps was reduced in 1763, and in November of that year he was placed on half-pay, and had been waiting the opportunity for further service which now at length arrived.

On June 12th, 1775, General Gage, commanding at Boston, issued a "letter of service" to Maclean.

"You are empowered," it read, "with the officers under your command, with beat of drum or otherwise, to enlist for His Majesty's Service in any of the Provinces of North America, such Highlanders, or such loyal subjects as you may be able to procure to be formed into a corps of two battalions, to be paid as His Majesty's other Regiments of Foot and to receive 50s. bounty. They are to consist of ten Companies each. The whole corps to be armed and accoutred in like manner with His Majesty's Royal Highland Regiment, and are to be called the Royal Highland Emigrants.

You are to rendezvous at Lake Champlain, or bring them to this place as you shall find most practical, but should they be found in Canada, you will act under command of General Carleton until further orders."

(Signed) THOMAS GAGE,

Boston, June 12th, 1775.

The intention was evidently to employ the Emigrants for service in the States, but owing to the invasion of Canada and fall of Montreal, they came naturally under command of Carleton, and thus the first battalion formed part of his garrison in Quebec.

Maclean and his officers were not men to let the grass grow under their feet. Shortly after the order came they were out in the surrounding country seeking volunteers. The settle-

ments and farmsteads were visited, and each able-bodied man in turn was questioned, persuaded, and perhaps pressed into the service of the State.

The Emigrants were raised from soldiers of the 42nd Regiment, Fraser's and Montgomery's Highlanders, and many of them were men who had served under Wolfe and settled down in the country after the peace of 1763.¹ Recruiting was soon in full swing, as *The Quebec Gazette* for August, 1775, records:

"On Tuesday the 1st, a recruiting party, began to beat up here for volunteers for Captain William Dunbar's Company of the Royal Highland Emigrants, and so far enlisted 14 men."

In a newspaper of the 10th August we read of

"the conditions to be given to such soldiers as will engage in the Royal Highland Emigrants. They are to engage during the present troubles in America only. Each soldier is to have 200 acres of land in any province in North America he shall think proper: the King to pay the Patent Fees, Secretary's Fees, and Surveyor General's, besides 20 years' free of quit rent. Each married man gets 50 acres for his wife, and 50 for each child, on the same terms, and as a gratuity, besides the above terms, one guinea levy-money."

These, then, were the inducements held out to the recruits.

A few it seems were eager to join, but the majority had no such inclination, and many fled into the backwoods rather than enlist. Some of them, more cunning than their neighbours, did agree to enlist, but after receiving arms and equipment made off to their homes, inducing many of the waverers to follow them.

It was extremely uphill work for Maclean and his little band, but it speaks well for his energy when we read that he was successful in raising the 1st Battalion before the invaders arrived in September, and to obey the orders he received from his Commander to establish the small force at Sorel until joined by Carleton from Montreal.

The spark of war had again flickered to light, if, indeed, it can ever be said to have died away in those troublous times. The return of strife was not only apparent in the clash of conflict around Montreal, but, as animals are stirred with unrest before a storm, so the Canadian peasants were uneasy and uncertain. Agents and the friends of Congress had been busily at work. By word or letter the simple peasant minds were alienated from their English friends. Mysterious armed strangers appeared in some of the parishes, and disappeared as secretly as they had come. The rumour gained ground that the British Minister had formed plans to enslave the country-folk, that fighting would be incessant, and their lives spent in wars and bloodshed, far away from wives and settlements.

¹ Few, if any, French Canadians were enrolled.

Behind a cloud of disaffection Congress cleverly prepared the way.

Rebellion gained ground even in Quebec. Town meetings were held at which noisy demonstrations of disloyalty were heard. Such words as these were thundered continually by mob orators in the streets :

" Our force is small indeed, theirs is now great, and it increases daily—let us be prudent—let us remain neuter—let us secure with our effects good treatment from the friends of Liberty, for they will sooner or later take the town; if we attempt to hold out our ruin is unavoidable. Why suffer our property to be destroyed? Let us banish all Quixotic schemes of defence, and think of terms of surrender."

Some people, it is reported, had actually drawn up the conditions of capitulation, but these, thank God, were never necessary.

On November 5th Colonel Maclean with a party of his Emigrants descended from Three Rivers, and taking all arms and provisions he could manage, took ship along the St. Lawrence to Quebec. On the 13th Arnold crossed the river St. Lawrence and landed his force at Wolfe's Cove, and at once demanded the surrender of the Capital, which was refused. Ainslie in his journal naïvely remarks :—

" They (the enemy) huzza'd thrice, we answered them with three cheers of defiance, and saluted them with a few cannon loaded with grape and canister shot—they did not wait for a second round!!

Arnold then retired to Pointe au trembles, some 21 miles above the city. On the 19th November General Carleton, the British Governor, arrived.

" A happy day for Quebec," remarks Ainslie, " we saw our salvation in his presence."

The man with method now exerts his influence, and everywhere we see the master-hand. Buildings repaired, fortifications strengthened, food, forage and ammunition collected. Mr. James Thompson, the Citadel Engineer, worked day and night at patching up Quebec, which still lay tattered and crest-fallen from the shot and shell poured in by the British Army which stormed the place in 1759. The little garrison was organized by Carleton, and all refusing to enrol their names in the militia lists were allowed four days in which to quit. This expulsion strengthened the garrison, who no doubt feared the secret enemy within more than the rebels who thundered at the walls.

It is curious to note *en passant* that there was great consternation among the more timid inhabitants at the arrival of Arnold's men, on account of a report which had gone abroad to the effect that their clothing was bullet-proof. It appears that they were clad in canvas frocks, *vêtu en toile*. The word *toile* (linen) was converted into *tôle* (iron plate), hence the unnecessary alarm!

Dark days of war and winter had settled over the city, and those who elected to accept its hospitality had now only a feeble prospect of relief.

On November 30th the garrison was composed as under:—
70 Royal Fusiliers; 230 Royal Highland Emigrants; 22 Royal Artillery; 330 British Militia; 543 Canadian Militia; 50 masters and mates of trading vessels; 35 Marines; 120 Artificers; 400 Seamen; total 1,800 men, besides 3,200 women and children; making a total of about 5,000 souls.

With so small a number it was impossible to admit of idleness. Every able-bodied man was forced to enrol his name for service, and those unwilling to take an active part in the defence were turned away.

A glance at the map and a hasty annotation of the resources will suffice to make subsequent events more plain. Eastward stretched the city wall 18 feet in height, stone-faced, and strongly buttressed, pierced at intervals by the two gates of St. Louis and St. John. Northward the wall was strengthened by commanding ground overlooking the suburb of St. Roc, but only one exit (the Palace Gate) provided a means of egress in this direction. Westward it continued and the ground sloped still more steeply to the water's edge, allowing only a narrow pathway along the slippery rocks. On this side, stowed away in the *cul-de-sac*, was a quantity of shipping, men-o'-war and merchantmen,¹ prepared to make a lengthy stay in quiet ice-bound water until the return of spring.

More attention had been paid to the walls than had been bestowed upon the dwelling-places, for besides the ordinary repairs, blockhouses had been erected at intervals to guard the gates, and in every direction effort had been made to restore as well as possible the symmetry of defence.

James Thompson had worked manfully during the summer, and on the arrival of the rebel forces in November Quebec displayed a very formidable appearance.

The principal buildings were the Convent and Monastery of the Ursulines and Recollets; the Cathedral; the Seminary; the Governor's Palace; the Jesuits' Cathedral; the Bishop's Palace; and the Hôtel Dieu. The public buildings were of stone, also many of the private dwellings, while poorer houses were of wood, for which the forests could furnish a plentiful supply.

The conditions of life can be better imagined than described, for as a narrative proceeds new light is thrown upon environment, and thus the reader will construct scenes to make a sufficiently complete picture in which to instal the facts which history gives him.

We now turn to Montgomery, who had joined forces with Arnold on December 3rd, and renewed his impudent demands

¹ 1 28-ton frigate, 1 King's sloop, and 30 merchantmen and transports.

for the surrender of the town. Letters were despatched with every show of effrontery, carried by an old woman, as if to emphasize the insult; while arrows were shot into the city bearing threatening and intimidating messages to the inhabitants. This action was to be the herald of the war, but Carleton maintained a dignified silence in the face of this impertinence and resolutely strengthened the defence.

Finding threats unavailing the rebel leaders contented themselves by drawing the cordon more closely and awaiting favourable opportunities for assault.

It was now the middle of December, and such a winter as only the vicinity of the Polar circle can proclaim. Rain and snow and frost alternately made the duties of the soldier arduous and difficult, and the conditions of life among the citizens would have tried the staunchest discipline. Their motive of action, however, was one of loyalty rather than compulsion, and whatever was asked for by the leaders was complied with cheerfully by the men, and even during the most trying time of the siege there were few desertions or misdemeanours to record.

The scum had been removed, and true British character preserved.

In consideration of the severe weather, guards and picquets had been reduced to the lowest possible figure, but as there were over two miles of battlements to watch, it was found necessary to employ nearly two hundred men every day as sentinels around the walls, and to form strong guards at the city gates for cases of emergency.¹

Alarm posts were also established at the convenient points of King's Wharf, Cape Diamond, Bishop's Palace, Jesuits' College, and the Château, while orders were given for the great bell in the Cathedral to ring in case of any serious assault. The city gates were locked and barred each night at 9 p.m., and not opened until dawn.²

Every precaution was taken to ensure security, and all arrangements were so sound and soldierlike it is not surprising that the Americans should have found Quebec so difficult to capture.

Early in November the line of sentinels had been replaced by constant patrols well provided with ammunition³ and warned to be prepared for immediate action in case the enemy should make an unexpected move.

¹ Main Guard, 50; Cape Diamond, 28; Port St. Louis, 18; St. John's, 26; Palace Gate, 12; Batteau Guard, 20; Lower Town, 44; total, 198.

² The drums of the 7th Fusiliers beat the troop at 9 a.m.

Retreat was sounded at sunset and Tattoo at 9 p.m.

³ Eighteen rounds per man were carried, afterwards increased to 24, and a fine of 4 coppers per round was stopped from each soldier for every round lost, stolen, or destroyed.

Absence was severely punished, a fine of 3s. being imposed for absence from picquet or fatigue.

Much may be said of the dilatory methods of Congress, but it is easy to see that the leaders were uncertain how much confidence they could place upon their men, and whether an immediate attack, should it prove unsuccessful, would not jeopardize an ultimate success which they hoped to bring about by stealth and strategy. The cold was intense, and any offensive movement, especially at night, would have been extremely difficult.

One anecdote related by an officer throws some light on the barometer:—

"This morning," he writes, on January 26th, 1776, "about five o'clock, when the Field Officer was going his rounds, he hailed a sentry who had not challenged him, and was very angry for the sentry's negligence. 'God bless yer Honor,' replied the sentry, 'I am glad you are come, for I am blind.' On the officer examining him he found the man's eyes had watered with severity of the cold, and that his eyelids were frozen together, his face was tender, he durst not rub them, and the officer was obliged to carry him to the guard room to be thawed."¹

Even with a good stove in the room, care had to be taken against frost bite, and although it has long passed into a proverb that the old soldier's yarn lacks nothing in the telling, the intense cold in Quebec, especially in January, 1776, is confirmed by authorities who write about the siege, and when we consider that the weather made night operations a very hazardous undertaking, the story of the frozen sentry may not perhaps be greatly overdrawn.²

December, 1775, brought no cessation of hostilities or relief from the daily programme of the siege.

Food was plentiful in the town, and thus the suffering was less severe than might otherwise have been the case, but the continual boom of the rebel cannon and crash of their shot, provided little rest to the besieged, who were constantly alarmed and continually on the alert night and day, often standing to arms in the biting cold for many hours until the danger had subsided and confidence had been restored.

Towards the middle of December the rebels began to grow restless about the inactivity of their leaders, who could find no weak spot in the armed circle before them.

¹ Diary of an Artillery officer.

² The eccentricity of the weather during December, 1775, reminds one of an English winter. December 1st, a foot of snow, rain, snowing, S.-W. wind; December 3rd, rainy, sleeting morning, N.-E. wind; December 4th, froze hard in night, W. wind; December 8th, six inches of snow last night; December 9th, pleasant sunshine, cold; December 11th, rainy, bleak day; December 12th, freezing hard, W. wind; December 13th, soft, fine weather; December 15th, mild, E. wind; December 16th, fine, mild; December 18th, snow; December 19th, very cold; December 21st, exceedingly cold; December 25th, mild.

"I will dine in Quebec—or hell on Christmas night," Montgomery gave out, "and I promise a reward of £200 a man to any who will volunteer to scale the walls and force an entrance for their comrades."

These reports drifted in to the defenders and drew forth not a few ironical remarks.

"We are determined he shall not dine with us," wrote one. "It may be in the latter place," said another.

"'Tis said the Europeans insist that the Americans be first to mount the walls, but the latter are willing to allow that honour to the Motherland," said a third. "They have 500 scaling ladders, but made in very clumsy manner. How can they hope to pass the ditch, loaded with ladders, in the face of our fire."¹

The garrison was in high spirits, which increased when it was seen how little damage the enemy's cannon could inflict.

One writer records on April 21st, 1776, that the casualties were only five, namely, "a boy, a cow, a wounded sailor, a frightened old woman, and a turkey bird!"²

The greatest annoyance was experienced from the suburbs which lay within rifle range of the city walls. Rebel sharpshooters would station themselves in the houses of St. Roc and shoot down our sentries as they passed along the walls. This method caused much bitterness, and ill-feeling ran high between the opposing picquets.

It is curious to notice how entirely different are the characteristics of the Canadian and American. Lying side by side one would expect to find mutual interests and mutual support in the two countries, but on the contrary, the greatest sense of competition still exists. Canada is Canada, and the Americans are "the Yankees," as different in their characteristics as England is from Wales. The tide of American men and money, which has flowed into Canada in recent years, may perhaps break down this barrier of nationality, which tends to hinder progress and to raise objectionable tariff wars between the two nations. A United Anglo-Saxon race is no longer a dream, and one may say with truth that a United Europe is only a question of growth and opportunity. Let the intermingling of races eventually absorb the whole world in one Empire, and enable a great brotherhood of industry to be established in which armed rivalry will no longer be necessary, and through which justice and equity will govern the world from one Tribunal.

Christmas Day, 1775, was a mild one in Quebec. The men lay alert and watchful. Expecting the rebel leaders to attack, they slept in their clothes, with rifles near by,

¹ Extracts from Diaries.

² Journal, the property of J. Bain.

and passed the night in silence, though a number of lights observed outside the walls caused a momentary excitement and alarm. Towards morning the weather grew excessively cold with a piercing north-west wind, and extremely clear, so that any attempt at a surprise was impossible. Spies had brought little or no intelligence on Christmas Day. Though from what had filtered through previously, it seemed certain Montgomery's attack could not be long delayed. Round the suburbs of St. Roc men were observed moving in threes and fours, many of them clothed in discarded British uniforms of the 8th and 26th Regiments. The long expected movement was about to take place, and the defenders meant to be ready for it.¹

On the 30th a deserter came in. "An intelligent fellow—an Irishman."

He reports that "they are three thousand strong, having been reinforced from Montreal, they have been clothed lately; they have plenty of provisions. The habitants supply them with everything, for which they are paid in hard money; they (the habitants) refuse to take Congress Bills until the town falls, they'll then accept of them."

This deserter said that "the Americans expressed much impatience to be led to the attack, but his opinion is that they will be very backward on seeing the fire of our great guns." All the Europeans wish to be at home, they do not pretend to like the intended attack.

We shall certainly be attacked the first dark night.²

The opportunity soon arrived, for the very next night, December 31st, broke dark and snowy. A cold north-east wind swung through the dismal streets, piling the soft new snow on every window-ledge. An occasional dog barked, or lantern flickered as someone moved from house to house,³ but there was nothing to show how keenly alive everyone was to the importance of the occasion, and how well prepared to offer the Americans a warlike welcome. At 4 a.m. in the pitch darkness Captain Malcolm Fraser, of the Royal Emigrants, was going his rounds, and had just passed the St. Louis Gate when he noticed a signal thrown on the heights toward Cape Diamond. On enquiry from the sentinels he learnt that several more had

¹ A side-light is thrown on the spirit which inspired the defenders, by Garrison orders of the 31st. After details of officers and men for guard the order continues:—

"The officers and men of the British Militia are to parade to-morrow morning at half-past nine o'clock to attend the funeral of George Kerr and John Fraser, who were killed, bravely fighting for King and country; their memories are to be honoured by every brave man and their example worthy of imitation."

Truly a spirit of discipline which it would be difficult to match!

² Ainslie's Journal, December 30th, 1775.

³ Anyone going into the street by night was obliged to carry a lantern.

been seen, and at St. Louis they appeared to be lights erected on poles, in two lines, like the lamps in a street. Captain Fraser at once realized the gravity of the situation, and running down the St. Louis Street he shouted, "*Turn out,*" "*Turn out,*" as loudly and as often as he could.

Men hustled hurriedly from the blockhouses and barracks, and the whole city was soon alive, though a few men in more distant quarters were not aroused until the firing began.

Drums beat, church bells rang, dogs barked; even old men of 70 hobbled from their dwellings. The alarm in the city was greeted by sharp musketry fire from about 80 yards beyond the walls outside Cape Diamond, and the General ordered the Main Guard to march to Post St. John's.

Shells now added to the confusion, as the Congress batteries spoke from St. Roc, and a detachment of British Militia, under Colonel Caldwell, was hurried down to Près de Ville Barricade, where it was believed Montgomery would try to escalate.

"On my way down," says Colonel Caldwell,¹ "I was told the rebels were in possession of all the lower town. Yet I proceeded to where I was ordered, and on my arrival at the Guard I found they had fired all the cannon, and with their small arms had killed eight and wounded two of the rebels; the two wounded crawled to our Guard and were taken in. As soon as I found this part of the town in perfect security, I sent a corporal to Colonel Maclean to let him know there was no further use for me there, and desired his commands. The corporal returned and told me I must go to the Sault au Matelot and support the party there."

It will be seen by a study of the map that the attack which the Main Guard was sent to check was merely a demonstration, whereas the decisive attack was directed on the lower town: Montgomery with 900 moving round the south side, while Arnold with 700 hoped to join forces from the north, and so, in conjunction, to capture the lower town and secure the waterway and shipping. The risk of failure was tremendous, but the advantage to be gained proportionately great; although one Britisher asserts in his account of the attack, that had the Americans succeeded in gaining the lower town our guns would have been able to drive them out of it. Be that as it may, the seizure of the wharf and shipping would have been an irreparable loss to the British, and would provide an easy means of reinforcing the Americans by sea.

We must now discuss Montgomery's attack with 900 men on Près de Ville Barricade.

The guard at this barrier had early been aroused by the flashes on the western side of the town, and long before the

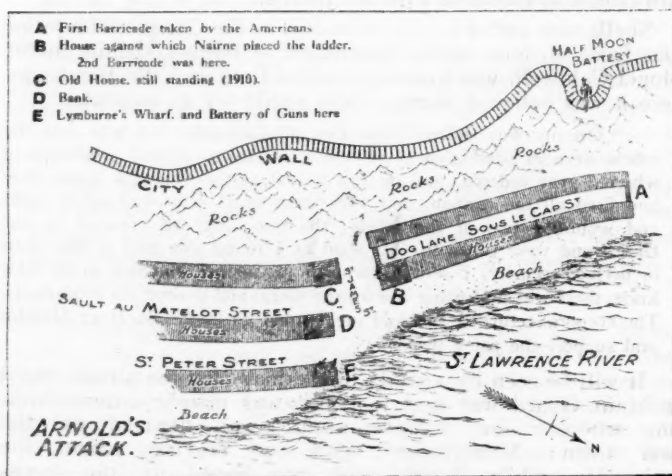
¹ There seems to be some doubt as to whether this account was actually written by Colonel Caldwell, but a close study of the four best known journals of the siege leave little doubt about the matter.

actual arrival of Montgomery and his men, the gunners were ready and eager to give them a warm reception.

The thick night and falling snow favoured the attackers, who crept up within 50 yards of the barricade without being noticed within. Here they paused a moment in consultation.

Huddled on the narrow sloping rocks between the river and the walls a breathless moment of suspense ensued before they moved cautiously forward to rush the barrier.

A few seconds more and 150 of them would have poured into the lower town, but Captain Barnsfare, who commanded the British guns, had seen them before they were aware of it.



The snow blew in their faces, and the darkness was intense.

Montgomery at the head had scarcely taken a step forward from his point of deployment when our guns thundered with blinding fire at point blank range, hurling a mass of shot and shell into the closely-packed Americans.

Fire was kept up for some minutes, until all sign of the enemy had disappeared, and quiet was restored.

The discharge had killed the General, and with him many of his men, although the narrowness of the approach prevented the whole force from coming up at one time and thus sharing in the catastrophe.

We can now turn to Arnold, who was able to give a somewhat better account of himself at Sault au Matelot.

About 4.30 a.m. or nearer 5, Arnold had reached the ground just north of the Palace Gate. Creeping along in the darkness with his men, he had hoped to evade detection, but a number of

sailors posted along the city walls near the Hôtel Dieu heard the force moving, and immediately opened a hot fire of small arms, with disastrous effect. Arnold was wounded in the leg, and being too severely hit to walk, was carried to the rear. His men, although leaderless, hurried forward, determined to carry out the project which Montgomery had in view, and to unite with his force in capturing the lower town.

Creeping on they gained the north end of Sous le Cap Street, a narrow alley, which stands to-day as a relic of old Quebec.¹ At the end of this street was the first barricade (A), defended by a small party who were evidently unprepared for the attack. In a few moments and without returning a shot the barrier was captured and the enemy poured down Sous le Cap Street towards the second barrier at the end of Dog Lane.

The affair was very critical; for the Congress men made every use of their advantage. They occupied the dwellings either side of the street, and a number of men reached a position in a house (B on sketch map) overlooking Lymburnes Wharf (E on sketch map), and a battery of Carleton's Artillery stationed there was placed in a very awkward predicament !

The position was precarious, and, indeed, many of the defenders were now prepared to sacrifice the lower town. Reinforcements of Colonel Caldwell's Militia, and Nairne with the Highland Emigrants were hurried up to meet the situation.

A sailor, whose name has been lost to posterity, was standing behind the barrier at the time the Americans swarmed down Sous le Cap Street, and Nairne came running forward with the Emigrants. In the confusion his quick eye had noticed something which he recognized as the top of a ladder the enemy had brought to escalate and with which they were evidently endeavouring to mount the barricade. Jumping up he caught the end, and putting his whole weight on, was able to haul it over the barrier and slide it down. Nairne quickly seized the ladder and hoisted it on the window ledge at the end of the house (B) which the enemy occupied, and from which they threatened Lymburnes battery. In a moment he had swarmed up, thrust open the window, and, followed by one or two of his men, claymore in hand, had dashed into the room among the Americans, driving them before him into the street.

Fighting became general. The rebels occupied the lower stories of the houses along Sous le Cap Street and fired from windows and doorways on the barricade.

Carleton, who was at the castle, had been early apprised of the situation, and summing up the enemy's intention correctly,

¹ There is just room to allow a cart to pass along, if the pedestrian presses his back against the wall and draws up his toes well from the wheels.

he ordered Captain Laws, of the Engineers, with 60 men, to go out of Palace Gate and engage the enemy's rear. Laws was covered by another party of 60 men sent by Colonel Maclean, and composed of Royal Emigrants under Captain McDougal. Turning out of the Palace Gate they almost immediately came across the rear guard of the enemy, who were so surprised at their sudden appearance that they immediately threw down their arms. Flushed with this easy and bloodless success, Laws called to his men to advance, leaving the prisoners in McDougal's care,¹ and dashing along toward the lower town he ran into the first barrier, held by a body of the enemy, whose advance column was already engaged at the second barricade. "You are all my prisoners," shouted Laws. "You are all my prisoners, every one of you."

The weather-beaten Congress men blinked at him out of the snow. "How so," said one. "Your prisoners? You are ours!" Laws turned round with an order on his lips, but his men were far behind lost in the darkness and confusion. He was alone!

"No, no, my dear creatures, don't mistake yourselves," he said impatiently. "I vow to God you are all mine." "But where are your men?" "Oho!" says he, "make yourselves easy about that matter, they are all about here, and will be with you in a twinkling."

Murmurs ran round, and a proposal was made to knock this young upstart on the head, but his very persistence seemed to amuse the Congress men, and Laws, realizing that time was his only friend, kept up the conversation with as much *sang froid* as he could muster.² Meanwhile, McDougal had secured his prisoners, and pushing on with as many men as he could collect, captured the barricade at which Laws was still holding a wordy warfare. All was now over. The Americans, caught between two fires, were forced to lay down their arms, and as the sun was now fully up, and the hour almost nine o'clock, it only remained to collect the prisoners, attend to the wounded, and return to breakfast.

Another last effort was made at Près de Ville Barricade, but this was beaten off, and Montgomery's men, leaderless and crestfallen, were obliged to retire.

The prisoners included:³ 1 Lieutenant-Colonel, 2 Majors, 8 Captains, 15 Lieutenants, 1 Adjutant, 1 Quartermaster, 4 Volunteers, 350 Privates, 44 Officers and soldiers wounded, total, 426.

¹ 300 men.

² Diary of Thos. Ainslie.

³ The captured Americans bore strips of paper in their hats, on which was written: "Death or Liberty."

RIVER SAINT CHARLES

0 PALACE GATE
 2 HOTEL DIEU
 3 RECOLLETS
 4 URSULINES
 5 BISHOP'S PALACE



ATTACK ON NIGHT OF
DECEMBER 31st / 1st,
1775-6.

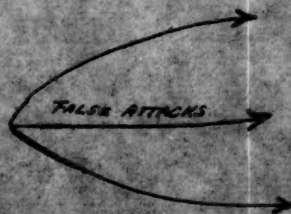
Scale of Miles
0 10 20 30 40 50



ST. ROO
SUBURB

CONGRESS BATTERY
SHELLING THE TOWN

ST. JOHN
SUBURB



RIVER
ST. LAWRENCE
(ICEBOUND)

ARNOLD'S ATTACK
BLACK CREEK

QUEBEC

ST. LOUIS CREEK

ST. LOUIS CREEK

RECOLLETS

LOWER
TOWN

FAULT-AU-MATELOT

2nd BARRICADE
where Arnold
surrendered

SHIPPING

Cul de Sac

APRES DE VILLE BARRICADE
Montgomery killed

MONTGOMERY'S ATTACK

THE DEVELOPMENT OF SAILING SHIP TACTICS COMPARED TO THAT OF STEAM TACTICS, WITH A GLANCE INTO THE FUTURE.¹

By KORVETTEN-KAPITÄN EMIL WILDE, of the Austro-
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INTRODUCTION.

IN the following treatise I propose to discuss one branch of maritime science, which in general, but especially with us, has not been given the close attention which it deserves; I refer to the study of naval history and the knowledge of strategy and tactics to be derived from this study.

It is a striking fact that the study of military history is considered far more important and useful than that of naval history, and the reason is chiefly to be found in the fact that the literature of the former is far more extensive and more abundant than that of the latter. It is only lately, since the Russo-Japanese War, that literature dealing with this subject has made any progress. The reason, which is most frequently given—that our naval history is of no assistance to the study of modern warfare, owing to its being chiefly concerned with the sailing ship period, and that therefore it has nothing in common with the present-day methods of conducting war under such very different conditions—is unconvincing. At first glance, this view appears to be justified to a certain extent—especially with regard to the lessons of tactics, which are largely modified by the nature of the weapons employed. For indeed how great is the gulf which lies between the galleys of ancient days, stealing anxiously along the coast from harbour to harbour, or the sailing ships dependent on wind and weather, capable of steering only a limited number of courses, and the mighty armoured monsters of the present day, which are able to command many thousand miles?

And yet, when we come to study naval history more deeply we find many similarities, points of relationship with

¹ Works consulted:—Mahan: "Influence of Sea Power upon History"; "Life of Nelson." Attlmayer: "Über Maritime Kriegführung." Vicomte de Moroques: "Tactique Navale." Clerk of Eldin: "Essai méthodique et historique sur la tactique navale." Kaltar: "Das taktische Prinzip der Kraftkonzentration in der Segelschiffperiode."

the fighting methods of our times, which compel us to acknowledge the great value of this study. We come to understand why Napoleon recommended to his officers the study of the campaigns of Alexander, Hannibal, and Cæsar, to whom gunpowder was unknown; and we then soon realize that, though weapons may change, the principles according to which they were applied have remained the same. We shall find it easier to trace the sequence of cause and effect, and to distinguish the part which chance incidents (good or bad luck) have played in the method of conducting the war.

I have attempted in this article to bring out these principles and to show how they can be applied to the means and methods of present-day warfare. If we admit that the lessons of ancient history are adaptable to modern warfare, then a whole mass of material—far greater than could be obtained from the limited history of the steamship period—stands at our disposal, supplying us with sources of knowledge and fundamental principles for the study of modern naval tactics and strategy. Before I pass on to the discussion of my theme, I should like, in a few words, to distinguish between strategy and tactics, and to emphasize the supreme importance of the most fundamental law of tactics, that of concentration of force; because it is the manner in which this principle has been practically applied which forms the basis for the criticism of naval battles, no matter in what period.

Tactics begin, in general, when strategy ceases, *i.e.*, when the opponents come into touch; as regards space, tactics are confined to the battle-field proper, strategy on the other hand covers the whole theatre of war. Whilst the teachings of strategy have remained the same for all time, tactics change with the weapons employed. Strategically it will always be right to create strong bases, to take possession of important points and routes, to destroy the enemy's lines of communication, to attack him in the rear. On the other hand, the boarding tactics of the ancient galleys and luggers are things of the past; one fights in a different fashion with powder and lead than with bows and arrows. But if the form and method of tactics have altered in the course of centuries, the principles remain the same for ever. The first and most important of these principles is to bring about a superiority of numbers, a concentration of force at a point of the battle-field where the enemy can least offer resistance, that is to say, to attack one part of the enemy, with superior force and at the same time to isolate the other part, this principle must remain for all time the first aim of every commander in war. I would quote, as one of the most striking examples of this principle, the doubling of the van of the French fleet by Nelson at Aboukir; in this case the centre and rear ships, to leeward, were unable to come to the support of the van, which was attacked by the whole English fleet.

In the sailing ship period the art of naval warfare was brought to the fullest state of development, one might even say perfection, under men like Rodney, Suffren, Howe and Nelson; but, in the present day, it appears that this art has not yet attained the same high pitch of perfection, and that it is still in the stage of development. It is therefore instructive as well as interesting to study the tactics of the sailing fleets of old days in order to note the relationship between their methods and ours so as to be able to draw conclusions as to the future development of our own tactics.

When we come to examine the subject we find to our surprise, that the development of modern steam tactics, up to the present time, has passed through the same stages as the old sailing tactics; the question, therefore, arises whether the further development of steam tactics will not continue to progress on the same lines. In the following remarks I will now treat this question from the point of view of naval history.

THE EVOLUTION OF SAILING SHIP TACTICS.

In the development of tactics of the sailing ship days three perfectly distinct periods can be recognized.

THE FIRST PERIOD was from the commencement of the use of sailing ships for war purposes, at the beginning of the 15th century, till the Second Dutch War (middle of the 17th century); at the battle of Lowestoft, single line ahead close hauled was employed for the first time, as forming undeniably the best line of battle. This period includes the transition from rowing to sailing tactics and is characterized by "mêlée" and group actions.

THE SECOND PERIOD, with its artillery duels so barren of tactical results, extends from the battle of Lowestoft (middle of the 17th century) up to the actions between French and English in the American war of Independence at the end of the 18th century, when Rodney (in the battle of Dominica) appeared by his manœuvre to wish to break through the hostile line, thereby initiating:

THE THIRD AND LAST PERIOD, in which the principle of concentration of strength against the weakest portion of the enemy by splitting up his line was put into practice and reached its zenith of tactical perfection under Nelson at the battle of Trafalgar.

Similarly we can divide the progress of steam tactics up to the present day into two periods:—

THE FIRST PERIOD, likewise characterized by mêlée and group actions, in which the ram played an important rôle, as at the battle of Lissa.

THE SECOND PERIOD, in which we stand at present, is distinguished, like the second period of sailing tactics, by artillery duels at great or medium distances, as seen in the naval actions of the Russo-Japanese war.

The last and most glorious period of the sailing tactics (that of attacking and isolating separate portions of the fleet) as created by the most famous seamen, has, at present, no counterpart in steam tactics. The development of tactics, and of war material goes hand in hand. In order, therefore, to understand the former, we must first be conversant with the latter, for it governs the forms and method of tactics.

FIRST PERIOD.

(A) Sailing Ship Tactics.

In the first days of the sailing period weapons had no great range; artillery on board ship was in its infancy. The armament, taken from the galleys, was similarly disposed at the bows and stern, the broadside was kept free for the oars, which were still retained in reserve; doubts were also held as to the strength of the framing in that part of the ship. The French constructor Decharge, in the year 1500, is said to have been the first to cut gunports in the ship's side, but the main armament still remained fore and aft.

The abnormally high upper works of the fore and after castles were a consequence of this method of armament; these towerlike superstructures had, moreover, a great advantage over low freeboard ships in the boarding tactics of that day. The heavy guns were still mounted in the bows, the lighter on the broadside. Tactics in this period, were governed by the short range as well as by the ineffectiveness of the artillery, which necessitated fighting at close range and boarding. The dependence of tactics upon weapons is, in this case, very apparent. The principle of concentration only found expression in the endeavour to bring the fighting force as far as possible simultaneously and in full strength against the enemy; this resulted in frontal formations, and, as a consequence, the mounting of heavy guns in the bows.

Thus in the earliest period of the sailing ship days the form and method of tactics as derived from the galley period remained the same. The attack was made in wedge, angular, or crescent formation with a wide front, in order to avoid being outflanked; in the first rank were the heavy ships, and behind them, or on the wings, the light ones. *Mêlée* actions and boarding were the result; the lighter ships constituted a sort of reserve, with which to support threatened points.

Moreover, single line ahead was out of the question as a formation for smaller ships, since the rear ships would not have been able to see the enemy, and would have obstructed each other's fire.

In the time of Louis XIII., Fournier expressed the following opinion upon the manner of leading a fleet into action :—

"The formation to be employed in bringing a fleet into action should cause no concern, since there is only one, and that is the crescent formation. The main body, composed of the heavier ships, should be in the centre, the small ships on the wings in order to tow the big ships, and to outflank and harass the enemy."

It was not till later, in the actions fought by the English against the Invincible Armada, that single line was partially employed by the English, in consequence of their improved armament, while the Spaniards still retained the boarding tactics. Up to the first Dutch war in 1653, however, the artillery was still too ineffective to fight an action in formation with any hope of success. The maintenance of the line (this does not mean the line ahead close hauled) also presented great difficulties, so that we read in Sir William Monson's "Naval Tracts," in the chapter on "The Direction of a Fight in a Naval Battle,"¹ published about 1635 :—

"But ships which must be carried by wind and sails, and the sea affording no firm or stedfast footing, cannot be commanded to take their ranks like soldiers in a battle by land."

Such a view is easily to be understood when one considers the various types of that time. From all this it is apparent that the action of artillery of any kind was of no importance whatever; the main thing was boarding. The only real progress made was in the disposal of ships into groups each of which formed a fighting unit; this was followed, shortly after, by the organization of divisions, whereby the tactical principle of attacking in superior force at various points of the battle-field was attained through the mutual support, in a *mêlée*, of ships belonging to the same group.

(B) Steamship Tactics.

If we now draw a parallel between the above and the first stage of steamship tactics, we shall find a certain similarity in their development.

The first steamers were paddle steamers, on which the guns could naturally only be mounted at the bow and stern. These vessels were seldom employed as battleships on account of the liability to damage of their means of propulsion; they performed excellent service, however, as tugs and look-out vessels.

The sailing ship of the line still maintained its position as the fighting unit, even after the screw had been invented; thus the screw steamer "Princetown" (built by Ericson in America in 1839) followed by the French screw frigate "Pomone" (1843) and by the English "Amphion" (1844) had such weak engines, that they were merely regarded as an auxiliary means of pro-

¹ Book III., page 328.

pulsion. But by 1850 screw line of battleships, carrying from 80 to 121 guns, were being built both by France and England, and from this date began the decline of those proud ships of the line, which had ruled the ocean for so many hundreds of years under sail, but which were now to make way for the screw ship in all its manifold types from battleship to gunboat.

As the result of the striking results achieved by the French steam armoured floating batteries at the bombardment of Kinburn on 17th October, 1855, during the operations of the Allies in the Black Sea, Napoleon III., in 1858, ordered an armoured frigate, the "Gloire," to be built. She was designed by the famous naval constructor, Dupuy de Lôme, and was completed in 1860; and England followed in the same year with the armoured frigate "Warrior." Thus began the struggle between armour and artillery, which has lasted up to the present day. The guns were made larger and their range was increased; the armour became tougher and more capable of resistance. The building of the low freeboard Monitors during the American Civil War gave rise to the turret ship; from this period also began mining and torpedo warfare. The tactics of the battle of Lissa again showed the value of the ram as a new weapon in naval battles, so that from this time onwards until towards the end of the 19th century, the ram may be reckoned among naval weapons, in addition to the gun, the torpedo, and the mine.

We see that the development of material after the introduction of steam was so rapid that tactics were unable to keep pace with it.

Captain Ross had scarcely begun his work on the tactics of paddle steamers, in which he favoured the frontal formation (just as in the days of the first sailing fleets when the main armament was placed at the bow and stern) than the screw steamer was invented, which soon entirely replaced the paddle steamer as a fighting ship. (Paddle frigates had just begun to be built).

During the period of large screw ships of the line, screw frigates, and corvettes, which now followed, there is no trace of any fixed tactical system, as no great fleet actions took place. Since, however, the fighting strength of these types lay in their broadside, and as the guns had increased in range and had become effective—owing to the use of common shell—against the wooden walls of ships, it is only natural to imagine that the theoretical methods of the tactics of that time approached those of the artillery duel in long lines, as was seen in the case of the battle of Heligoland.

But in this case again there was no time to make a thorough trial of this form of tactics, for with the introduction of armour, the artillery again fell back into the same condition of ineffectiveness in which it stood during the earliest period of sailing ship days. It could wound, but it could not kill. Tactics, therefore, naturally assumed the same form as in the correspond-

ing sailing ship period. In the epoch-making battle of Lissa we see frontal attack formations, with the most powerful ships in the front rank, and the weaker ships in the rear. As in former times, the object aimed at was the close action or *mêlée*; the artillery, on account of its ineffectiveness, retired into the background, while, as the most important weapon, the ram took the place of the boarding, which was employed in old days for the final and decisive blow, but which, owing to steam power, was now no longer feasible. The genius of a Tegetthoff recognized clearly the extent to which the alterations in the material of naval war caused by the introduction of armour had modified the tactics to be employed; to this was due his confidence in victory, and his eagerness for the fray even against a stronger foe, characteristics which, in the case of Nelson, are to be attributed to similar motives.

So the ram, in the opinion of many, remained till the end of the century a superior weapon to the gun. In 1867 the French Admiral Touchard wrote:—

"The ram is the weapon of future battles; the ram will be used both in attack as well as in defence. It is with the ram that victories will be gained, it is against being rammed that one will have to be on one's guard."

How widely these tactics were admitted, and how deeply they had taken root, is proved by the ship actions of those times. The Chilean unarmoured cruiser "*Esmeralda*" was sunk through being rammed by the Peruvian turret ship "*Huascar*." The large unarmoured British cruiser "*Shah*" (6,000 tons) when opposed to the same "*Huascar*," which had been declared a pirate owing to the mutiny of its crew, sought to remain at long range for fear of being rammed by the small, but better manœuvring turret ship. In the action between the French gunboat "*Bouvet*" and the German "*Meteor*," the latter was rammed by the former. Even in our own times we find traces of these tactics, for the Chinese at the battle of Yalu still held to frontal formations, and the intention of ramming is shown by the movements of the two turret ships "*Ting Yuen*" and "*Chen Yuen*," and also by the small Japanese cruiser "*Hyeyi*," which had to break through the Chinese lines in order to avoid being rammed. These are all signs that the Chinese, who, as is well known, were trained by Europeans and carried them on board, failed to recognize the superior speed of the Japanese and increased efficiency of their artillery; and that they were still permeated with the idea of ram and *mêlée* tactics, while on the other hand the Japanese sought and found the decision by the use of fire power and by doubling a wing of the enemy.

Thus the battle of Yalu stands for the transition from the ram tactics of the First Period to the gun tactics of the Second Period, just as in the sailing ship days the fights in the second Dutch war marked the transition from group actions and board-

ing tactics to gun tactics. If we now finally compare the First Periods under sail and under steam, we find in both cases, that the gun was of secondary importance on account of its inferior efficiency, and that the decisive result was sought, in the case of sailing ships, by boarding, and in the case of steamships by the ram. The attack in frontal formation reigned supreme.

SECOND PERIOD.

(A) Sailing Ship Tactics.

Turning to the Second Period under sail, we must first examine more closely the battles of the Second Dutch War, which marked the turning point in the tactical views of those times.

The artillery had improved, especially in the case of the English, who had superior ships at their disposal, for the Dutch included in their fleets many war vessels adapted from merchant ships. It was therefore clear that the English, in consequence of their material superiority, would adopt new tactics and fighting formations, which would enable them to draw the most profit from the above advantages. The artillery fight, in close formation under a common leadership, was a natural sequence to the improvement in war material, and it supplanted the irregular mêlées and group actions of former days. The single line ahead close hauled to the wind sprang into existence; this formation possessed the advantage of offering the greatest opportunities for the use of artillery fire and for easy mutual support; it was, moreover, a formation easily maintained, and one in which common command could be exercised. The speed of ships had now been brought more under control, thus rendering closer formations possible; hence breaking the line, in order to undertake mêlée or boarding tactics became more difficult. Steadiness of gun platforms became more assured by sailing close hauled, and there was always the possibility of gaining the coveted weather position through a favourable shift of wind, or a skilful manœuvre. It was no longer boldness, courage, or valour alone which decided the issue; discipline and organized evolutions began also to make their value felt. The Duke of York, afterwards James II. of England, is given the credit of introducing line ahead close hauled for the first time at the battle of Lowestoft in 1665.

The advantages of these new tactics will be realized all the more vividly when one imagines the Dutch, still keeping to their old methods, often masking and hindering each other, steering down towards their enemy, in order to board; they were received by the concentrated broadsides of the English, who, as the Dutch vessels approached separately, shortened sail and moved slowly across their bows, thus rendering it impossible for the enemy to make proper use of his guns.

De Guiche, a French witness of the four days' fight, says :—

" Nothing could be imagined finer than the station keeping of the English. There never was a straighter line than that formed by their ships. They thus concentrated their fire on every ship, as it approached them. They fight like a line of cavalry, handled according to well-understood rules and with only one object, that of overthrowing the enemy; while the Dutch act like separate detachments of cavalry, who break their formations and go into action in small parties."

It is very evident that such an excellent order of battle could not long remain the property of a single State; it was adopted by the Dutch during the same war in which it first came into existence, and it remained the only recognized battle formation the whole of the sailing period. That the English did not enjoy the full measure of success which is usually the reward of the application of new, unexpected, and superior tactics is to be attributed to the circumstance that in their commander, De Ruyter, the Dutch had a seaman whose genius and tactical talent was even higher than that of the distinguished English Admirals Monk, Rupert, and the Duke of York.

After a long interval two fleets of equal strength once more found themselves opposed to each other in the Third Dutch War, which was to prove of such importance for the future development of tactics. The English with experienced, skilful captains and capable admirals, the Dutch with brave, though tactically undisciplined captains, possessing, however, one of the finest leaders whom the world has ever seen; every condition was, therefore, present for the rapid development of naval tactics, so that it is not to be wondered at that, at the very commencement of the new period, a state of development was attained beyond which no progress was made till nearly a century later.

In the first action of this war the Dutch were commanded by Opden, a former cavalry officer. He was defeated, and was blown up by a fire ship in a desperate attempt to board the English flagship. The command then devolved on De Ruyter. His first battle, the tremendous four days' struggle from the 11th to the 14th June, 1666, has not only become famous on account of the extraordinary physical endurance of the men, but also because the tactical methods of the old and new schools, both handled by excellent leaders, were seen in opposition.

De Ruyter, who had recognized the advantages of the close formation, but knew that he could not handle his ships in this formation owing to their insufficient training, sought to minimize the disadvantages of the old school of tactics—with its system of independent attacks by individual groups—by endeavouring to keep his force united, in order that they might fall simultaneously with their whole force, with full strength on the hostile line of battle, and then, by boarding in the mêlée, outweigh the superior gunnery and tactical training of the English.

A short description of this battle will show us best the old and new form of tactics as well as the brilliant genius of De Ruyter.

On account of the freshening S.W. wind and thick weather De Ruyter had anchored between Dunkirk and the Downs in such a position, that most of the rear, under Tromp, lay to windward. (See Fig. 1).

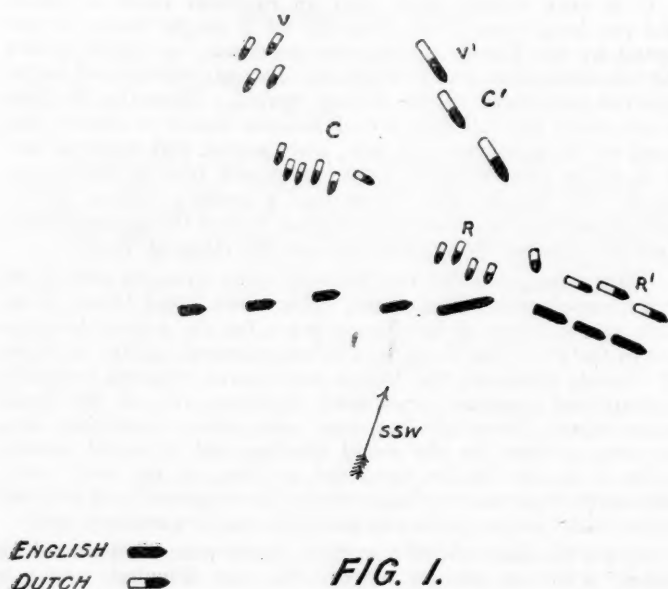


FIG. 1.

V, V' = VAN
C, C' = CENTRE
R, R' = REAR

On the morning of the 11th of June, Monk, who was also at anchor, sighted the Dutch fleet. Although weaker in numbers, he resolved to attack, since he had the advantage of the wind; like Nelson at Aboukir he steered on the starboard tack for the Dutch rear, which lay mostly to windward. Tromp slipped his anchors and ran on the same tack on a parallel course towards the French coast. The Dutch centre and van likewise slipped their anchors, but could not join in the attack for some time on account of being too far to leeward. The English wore together under Dunkirk, and on the opposite course their van came into contact with the Dutch centre and was badly mauled. The action ceased at 10 p.m.

On the next day (see Fig. 2) the two fleets passed each other on an opposite course, the English being to windward. Tromp tacked without orders from De Ruyter, and gained the weather position; at the same moment two Dutch flagships bore up and showed their sterns to the English, so that the sorely astonished De Ruyter was obliged to bear up likewise, in order to keep his fleet together. Tromp was in great danger of becoming isolated, first by his own movement, and then by that of the van. De Ruyter, recognizing his precarious position, tacked and lay up for the English rear, so that the latter were obliged to forego their attack on Tromp, for fear that the Dutch would gain the position of the wind. Thus De Ruyter's tactical insight and determined action saved Tromp from destruction.

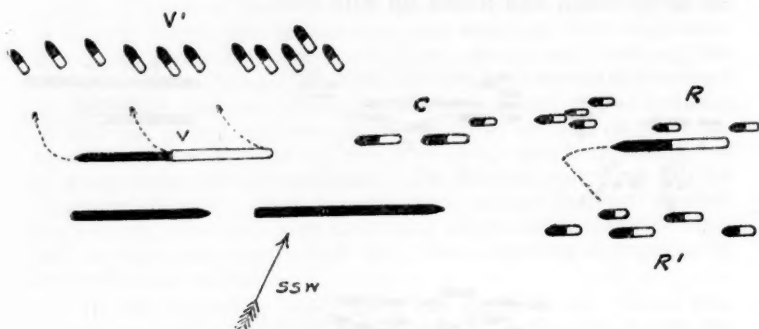


FIG. 2.

V. V' = VAN
C = CENTRE
R. R' = REAR

During that night and the whole of the next day the English retreated, followed by the Dutch. In the nick of time, towards nightfall, Rupert's squadron of 20 ships, which had been despatched to observe the French fleet, came in sight. On the 14th the wind was blowing fresh from the south-west; the English were coming up from astern. Both fleets ran parallel to one another, exchanging broadsides (see Fig. 3); during this time portions of the Dutch fleet drifted through the English line and fell away to leeward; all order was lost, but fortunately for the Dutch, the greater number of their vessels had remained to windward with the admiral; the remaining ships had left him. The commander of the van with 14 ships was chasing 3 or 4 English ships, and Tromp was now obliged to make a détour to leeward round the English fleet with the rear, in order to join up with his admiral. De Ruyter and the English main body were engaged in hot combat.

Tromp recalled the van and returned to his admiral, fetching, however, to leeward of the English main body, on account of the continual working to windward of the latter, and still further to leeward of De Ruyter. As soon as De Ruyter saw this, he made a general signal to all his ships, and the whole of the Dutch main body bore up at the same time before the wind, which just at this moment freshened considerably. Thus in a moment, says an eye-witness, the English, caught between two fires, fell into confusion, and their line became disordered, both through the violence of the attack, as well as through the freshening breeze. This was the crisis of the battle. The English admiral was cut off from the rest of his fleet, accompanied only by a fire ship; with this latter he tacked to windward, worked through the enemy, and set himself again at the head of 15 to 20 ships which had joined up with him.

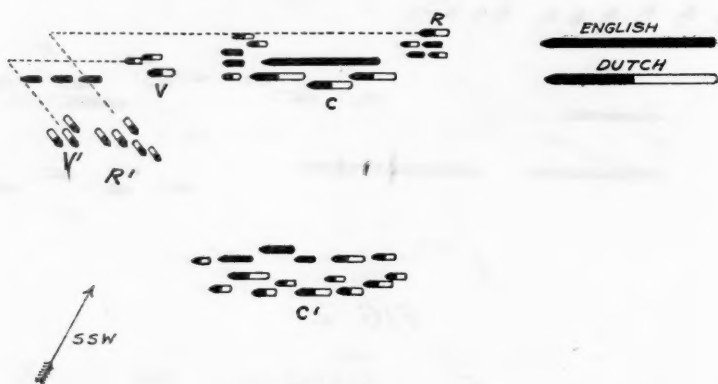


FIG. 3.

V, V' = VAN
C, C' = CENTRE
R, R' = REAR

Thus ended this great battle, in which the Dutch lost 4 ships and 2,000 men, the English 17 ships and 5,000 men. We see De Ruyter's flag officers still imbued with the spirit of the old school, leaving their posts, certainly with the praiseworthy intention of fighting, but in total disregard of their commander-in-chief, and of any combination whatever. Only De Ruyter's insight and determination saved them from defeat. On the other hand the whole endeavour of the English was to preserve the formation in close order, and to assert their superiority in gun-fire. When, therefore, the Third Dutch War broke out six years later (1672) De Ruyter had not only grasped all the advantages and disadvantages of the English method of fighting,

but he had also trained his flag officers and captains thoroughly in the new system. Not till now did his superiority and tactical talent make themselves felt.

We now see tactics treated on a scientific basis; the principle of concentrating all one's force at one point of the battle-field, while holding a portion of the hostile strength in check, is for the first time apparent. True, in the period which follows, it fades away, but only to re-assert its position as the first among all tactical principles, through the brilliant victories at the end of the XVIIIth century.

In the first battle of the Third Dutch War, that of Solebay, De Ruyter surprised the allied French and English fleets, which were anchored under the lee of the shore. The wind was favourable, and he quickly forsook his own waters which afforded him shelter, in order to throw himself against the unsuspecting enemy. A French frigate on the look-out gave warning of the approach, but in the ensuing haste of weighing anchor and forming line of battle, it can be easily conceived that with the faulty system of signals of that time misunderstandings arose; and as a matter of fact the centre and rear of the English set sail on the star-board tack, the French on the port tack, which naturally led to a separation of the two fleets. De Ruyter, summing up the situation correctly, sent a weak force under Bankert against the French, who only kept up a long range fight, while he himself engaged the centre and rear, thus attaining a superiority at the decisive point.

In the following year, 1673, the battle of the Texel was fought on similar principles. On the day before the battle the English sighted the Dutch under the coast. Rupert had the weather position, and therefore wished to engage the enemy. De Ruyter, fully aware of the favourable position of the allies, made use of his local knowledge by retiring under the coast where Rupert could not follow him; but when at night the wind turned and blew off shore from the south-east, the Dutch set all sail, according to the French account, and bore down boldly to attack. De Ruyter was the weaker, having only 70 ships to the 90 of the allies; he sent 10 of his van under Bankert against the 30 French ships composing the enemy's van, while he himself with the remaining ships of the van and centre attacked the centre in superior force and forced it away to leeward. He was also assisted in this endeavour by Rupert, who wished to draw the Dutch further away from the friendly coast. In this manner the Dutch admiral again succeeded in isolating the hostile centre from the van and rear. The latter, commanded by Sir E. Spragge, was already hotly engaged with the Dutch rear under Tromp, and this was to be attributed to the personal motives of the two commanders; Spragge is said to have promised his king to capture Tromp either dead or alive, and both ships sought each other out, Spragge even heaving to, in order to await his opponent; this naturally led to a further separation

of the rear from the centre. Spragge changed his flagship twice; finally his boat was hit, and he was drowned.

When Bankert with the van found himself in danger of being doubled on by the French, he boldly broke through the latter's line, and joined up with the centre under De Ruyter. Strange to say, the French did not follow him, and Rupert was naturally too hard pressed. Nightfall, however, separated the combatants. Thus had De Ruyter again, in spite of his inferiority, attained superiority of force in the centre by holding the enemy's van in check with a few ships, an advantage which he certainly owed to the doubtful behaviour of the French. How extraordinary their conduct appeared at the time is shown by a conversation between some Dutch sailors after the fight, when they were discussing why the French did not come to the assistance of the English. "Fools," said one of them, "they have hired the English to fight for them, and their whole business here is to see that they get their money's worth." The French admiral D'Estrées certainly appears to have had instructions to spare his fleet; another proof of what doubtful value allies often are!

In these battles we see a considerable difference in the employment of the single line close hauled. While the English strove to keep closed up and retain the formation as long as possible, in order to use their artillery to the best advantage, allowing no independent action to their subordinate commanders—a system which, in consequence of a few earlier successes, was adhered to throughout the latter period by the French and English—the Dutch used this method only as a means to an end, in order to bring the fleet into action united and simultaneously, and then gave an absolutely free hand to their subordinates; principles, which we shall find employed by Nelson at a later period.

The system, which originated with the English and was adopted more and more both by them and by the French until 1780, consisted solely in forming and maintaining the line in close order to the wind. As the only battle formation, it naturally formed the basis for every other formation, and cruising and chasing formations were based on it. If the fleet was to windward the manœuvre consisted in forming the line close hauled and then bearing down on the enemy, preserving the order as much as possible; when the required position at a long or short range was arrived at, the ships hauled to the wind simultaneously. In carrying this out, the chief object aimed at was to lay one's own van and rear ships abeam of those of the enemy, in order to avoid the danger of being doubled on. When line was opposite line, ship opposite ship, the leader could shut up his signal book; his task was finished, and artillery began its work, till the approach of night, calm, or current, broke off the engagement. The less obstinate opponent then sought to escape under cover of darkness, and an inde-

cisive action was the result, although perhaps the object aimed at was partly attained.

Against the great advantages of this method of attack—namely, being able to choose the time of attack and the range—there must be set the extreme difficulty of the manœuvre of coming into action simultaneously and in order.

The English must in course of time have become aware of the impossibility, when beating up, of keeping the line approximately parallel to that of the line of battle of the enemy, as a result of which the head nearly always came first under fire before the rear could get into action, and thus received considerable damage—especially as the line, in bearing up, could only bring the bow guns to bear against the whole broadside of the enemy. They must, similarly, have discerned the possibility that the opponent, being to leeward, could also bear up under cover of the smoke and lay a trap for the attacker, thus putting him at a disadvantage. And yet the battles of Beachy Head, Malaga, Minorca, the actions of Peacock against D'Aché in the Indies, Grenada, and Chesapeake Bay all prove that this method of attack was still adhered to. The battle of Malaga in 1794 is a striking example of this unscientific method. Even the circumstance that a considerable gap existed between the van and centre of the English fleet was not turned to advantage by the 26 year old commander of the French fleet, the Duke of Toulouse. The cannonade lasted from early morning till night-fall, the battle, as usual, remaining indecisive; many English ships had shot away their ammunition.

In 1740 the British Admiral Matthew was court-martialled and dismissed because he broke out of the line and boldly attacked the enemy with his centre, before the line had hauled to the wind. His subordinates were acquitted, in spite of the fact that they had failed to engage the enemy, owing to their excuse that the signal to form line was flying at the same time as the signal for action. This brings out very clearly that, in the opinion of sailors of that period, it was more important to maintain the line than to engage the enemy closely.

The sentence on Admiral Matthew cost the life of the unfortunate Admiral Byng, who failed to hasten to the assistance of his van in the battle of Minorca in 1756. The van was approaching on an almost perpendicular course to that of the enemy, and therefore far too quickly. Admiral Byng seeks to explain his action to his flag-captain in these words:—

"You see, Captain Gardiner, that the signal to form the line is flying, and that I am ahead of the 'Louisa' and 'Trident' (these ships should have been ahead of him). As Admiral of the Fleet I cannot bear up as if I was attacking a single ship. It was Matthew's misfortune that he was blamed for not keeping his force together, and this I will endeavour to avoid."¹

¹ These words are a paraphrase of Admiral Byng's remarks. For verbatim report see "Trial of the Honourable John Byng," Official Report, page 75. London. 1757.—Ed.

He was court-martialled for not having employed all the means at his disposal to defeat the enemy, and was sentenced to be shot.

That this adherence to the line should make its appearance in all tactics and instruction is only natural. Thus we find the same principle expressed in the "*Traité des évolutions navales*" written by Hoste, the father confessor of Tourville, in 1697, that is, at the commencement of the Second Period:—"In the first place, one's own line must remain closed up."

In the "Instructions" written by the Vicomte de Moroque 70 years later, which were used for a long time as a text book for naval officers at Brest, we read:—

"The greatest strength of a fleet is discipline, which ensures the observation of signals and the rigid carrying out of a manœuvre. A fleet in line is stronger in proportion as the ships are closer together."

A doubling of the head or rear is recommended by the tacticians of that time only when the fleet is much superior in force to that of the enemy. They appear to have occupied themselves far more with methods for avoiding being doubled, than with those for doubling the enemy. Breaking through the enemy's line was only advised when it could be carried out without any danger and with absolute certainty of success. Thus Moroque writes:—

"This manœuvre is extremely bold and difficult. There are occasions when it can be attempted, for instance, when the enemy allows a large gap to form between his squadrons."

From all this it would seem that the decisive results to be obtained by a concentration against the most vulnerable part of the opponent had not yet become clear. This was partly due to tradition, which wished to keep to the old method of fighting, still more to a lack of knowledge of new methods, but most of all to want of courage to strike out a new line when success did not appear to be assured by a favourable position before the battle. According to the English tactician Clerk of Eldin, who in 1782 published a work which attracted much attention, all failures and indecisive actions were due to the tactical system which originated at the time of the Dutch wars, a system which sprang into use owing to its suitability for the defensive in narrow waters, by the greatest possible employment of gunfire. Such a system must, however, have disadvantages when used for the offensive, a condition under which the English had naturally to employ it. When, therefore, their opponents, the French, made use of the same system, but—in accordance with their conservative strategy—only for parrying the attack, that is to say for the very purpose for which it was created, it was clear that all advantages of this system (*i.e.*, line close hauled to the wind) must be with that side which knew best how to employ it in the manner in which it originated. In fact, if we examine the period after the Dutch wars we do not find a single case of a decisive action involving the destruction

and capture of hostile ships. The utter defeats of the French at La Hogue and Quiberon were not the results of the actual battles, but of the fighting during the pursuit, and in the case of the latter engagement, of the stormy weather and the better seamanship of the English.

Thus we see the science of tactics, which had developed so astonishingly during the Dutch wars, gradually sink during the next century to the level of an artificial military parade manœuvre, in which the brute force of the stronger side determined the outcome of the battle. The side which could bring more ships or guns into the line was assured of victory. The skill and capacity of the leader scarcely came into account, and were limited to the eventual gaining of the weather position, and in the training of captains in manœuvres and evolutions so that they should be able to engage the enemy with the fleet in good station. The battle of Beachy Head in 1690 is the only one of this period, in which the superior skill and capacity of the leader were displayed. On this occasion the famous French Admiral Tourville doubled on the hostile van, and brought about a complete victory over the combined English and Dutch fleets. This is the only instance during this period of a departure from the primitive tactical methods of those times, and of a skilful and scientific method of attack by concentrating against the van of the opponent, a method which only began to show fresh signs of life with the commencement of the Third Period.

What firm hold this method of fighting with ship against ship, had taken at that time, is shown by the views of the above-mentioned Jesuit Hoste, who, in his tactical instructions—in spite of Tourville's great victory—will only entertain the idea of doubling when there is no risk, *i.e.*, when large gaps have arisen in the enemy's fleet, or when one's own force is so superior to that of the enemy, that an overlapping of the latter's rear is possible.

Moroque, in his work on tactics written in 1763, holds to the same principles. All admirals and officers of that time are naturally educated to the same views, and even Tourville himself was not quite free from them, in spite of his success in the battle of Beachy Head, since we find him later on at the battle of La Hogue exerting every endeavour to prolong his line as long as possible, so as not to be doubled on by the English. In this case he was, certainly, very much the weaker, hence, therefore, we find no sign of his having attempted a concentrated attack on the head or the rear, in spite of his having the weather position. He adhered faithfully to the rules of his time, not venturing to risk his stake on a doubling of the enemy's line, but taking every precaution against being himself doubled on.

Not till the Battle of Ushant in 1778 at the beginning of the American War of Independence, do we find the French again

making an attempt to carry into practice the principle of concentration against the enemy's rear. The French Admiral D'Orvilliers signalled to his van, as the fleets passed each other on opposite courses, to wear and follow after the English rear, which was to leeward, thus bringing it between two fires. As a matter of fact, the leader of the French van, the Duc de Chartres (later Phillippe Egalité) did not carry this out, with the consequence that this important tactical manœuvre proved unsuccessful.

The first fleet commander who appears to have shown a really full appreciation of the value of such a concentration of force was England's great seaman Rodney who, at the age of 62, took over the command of the British fleet in the West Indies, during the War of Independence. In his very first action, against the skilful French admiral De Guichen off Martinique (1780), where he held the weather position, he gave proof of his tactical talent, by bearing up with the whole of his fleet against the French centre and rear, leaving the van entirely unmolested. De Guichen recognized the dangerous position of his rear and avoided it by making his ships wear together. Rodney, baulked of his plan, went away on the same tack as his opponent, and when the French had again got ahead, tried the same manœuvre a second time. His signal "Every ship shall bear down on her opposite in the enemy's line" was, however, badly understood by the van ships who still in the spirit of the old school, held "opposite" to mean the ship tactically opposite them in the enemy's van. They increased sail, and forged ahead in order to take up the fight line against line.

A similar progress, the same recognition of the correct application of tactical principles, was shown by France's greatest admiral, Suffren, who in his first action in the East Indies in 1782, fought his way at the head of his squadron from the rear of the English line up to the sixth ship, making the signal to the remainder of his disengaged ships, to attack the English rear from to leeward, Suffren himself being to windward. In spite of the fact that only two ships obeyed this order and that the English rear ships were only a short time under two fires, the latter incurred such heavy loss, that one of them (the "Exeter," Commodore King) was only saved from surrendering by the invincible courage and determination of her captain. Towards the end of the battle, when the "Exeter" was little better than a wreck, the master came to him, and asked him what to do with the ship, as two of the enemy were at that moment bearing down on them. He answered laconically "There is nothing to do but fight till the ship sinks." They were saved.

By these measures Suffren intended to attack in force with his 12 ships the six rear ships of the enemy, leaving the three head ships disengaged; lack of discipline, and of tactical training and seamanship were the causes of the action proving indecisive.

In summing up the development of tactics in this second period, we find that, owing to the improvement in gunnery, artillery actions became the chief factor, and, in order to derive still more advantage from artillery, the line close hauled to the wind, and the unit type of battleship (the ship of the line) were invented. The artillery duel, line against line, ship against ship, remained the most favoured method of fighting. A concentration of force, by which we mean doubling on the head or rear of the enemy, was only supposed to be employed when no risk was connected with it. Tactics were limited to gaining the weather position, and to the feverish endeavour to keep the line and to bring it in close order and simultaneously within range of the enemy. This being done, the work of the commander was in general ended; he had only to set his engines of war, his ships and his guns, in motion, and could then leave the decision to them. The maintenance of form was the main point, the end in view had become a side issue; the result was a series of indecisive actions.

Not till the close of this period, do tacticians arise (like Clerk) and admirals (like D'Orvilliers, Suffren, and Rodney) who recognized the deficiencies of the existing method of warfare, and who were not only induced (like Tourville) to concentrate against one portion of the enemy owing to an error on the part of the latter, but whose whole initial aim and object was the destruction of their opponent. By skilful manœuvring and by concentration of the forces at their disposal, they endeavoured to fall in superior force on that part of the enemy, to which least assistance could be given.

They were certainly still far from perfection; the isolation of the portion of the enemy's fleet attacked was still missing. Rodney and Suffren left the van unmolested, and, in both the cases referred to above, their plans failed owing to the van turning after a short time and hastening to the relief of the hard-pressed centre and rear.

(B) Steamship Tactics.

The above description can be applied almost word for word to the standpoint of our tactics to-day.

Now, as then, the artillery fight is preceded by lengthy manœuvring in order to gain a favourable position (formerly the weather position, now-a-days the "T" position). The improved long range artillery, which is still further strengthened by the ever-increasing offensive power of the torpedo, compels the fleets to keep apart, and tactics are directed to the fight at long range, leaving the decision to the artillery. Single line ahead is looked upon as the best and only battle formation, and the turret ship proper, with guns of one calibre only, has become the battleship of the present day.

If we examine the development of naval tactics of our own period more closely—commencing with the Battle of Yalu—

we see that the methods employed at that battle by the Japanese (the artillery duel in long lines) had obtained a firm foothold.

In his work "Ironclads in Action" (1898) Wilson gives a striking description of a battle of the future and affords us an insight into the tactical ideas of that period:—

"Two long lines steam side by side; the air is filled by the thunder of the guns and the hail of projectiles. As the minutes pass away, funnels and upperworks fly in splinters, the draught decreases, the speed becomes less, and ships drop astern. The moment for close action has arrived, and the victor steams onward towards the vanquished. In the midst of an inferno of sinking ships and exploding shell the ram and torpedo carry out their deadly work. Under a mantle of smoke, on a sea of blood, the command of the sea is determined for a generation."

The ram had not yet been completely relegated to the past. It was still accepted in tactics as a weapon of chance or despair. Opinions were divided over the torpedo owing to want of experience; as a weapon for the battleship it was, and is still, in general only looked upon as a weapon of chance.

The naval battles of the Russo-Japanese War first gave a fixed shape to the tactical views of our time, and the gun is now considered unanimously as the only weapon for battle, just as the line against line, which gave the Japanese the victory at the Yalu and Tsushima, is now looked upon as the only form of tactics. The ram and the torpedo (so long as the latter has only a radius of 2,000 yards) can have no part in the battle, or at the most, an extremely small one. The mine is chiefly a weapon of strategy.

I cite here, in order to give expression to the views of foreign nations, the French admiral Boué de Lapeyrère, who thus expressed himself:—

"In 1904 and 1905 it has become generally known, that in the battles of the future, the fighting will be carried out at long range only. The artillery duel at long range will be considered as the most important phase of the action, and action at close quarters could only occasionally occur by mere chance."

Here again we see that the close action, *i.e.*, the method of arriving rapidly at a decision, is left to a chance incident, as was formerly the case with doubling and breaking through the line; it is not sought for. Now, as then, we find no initiative, no risks staked in order to attain annihilating defeats. Everything is left to the good fortune of a few chance hits. Again we see the capability of the leader limited, in general, to superior evolutions before the action.

Although tactics in this period have assumed the same form as in the sailing ship period, the rate of development is very different. In the former period it was more regular; the simple line actions were followed by the difficult attempts at doubling and concentrating on the hostile wing. But in our period, doub-

ling on the enemy's wing, and forming the T-formation (*i.e.*, an endeavour at concentration of strength) sets in at the very beginning (the Battle of the Yalu); this may be attributed to a study of the teachings of naval history. It was only the measures taken to guard against being outflanked which led to the tactics of line fighting.

In the sailing ship period the danger of having the van or rear of one's fleet doubled on was averted by extending one's own line, if to leeward; or, if to windward, by advancing the leading ships more to windward than the remainder, and therefore at a greater distance from the hostile line; in the same way, now-a-days, it is just as easy, when the difference of speed is not too great, and when there is plenty of sea room, to avoid the T-position by describing the arc of the inner circle, so that now, as then, actions must be fought out in two lines.

That with such methods the result must be the same, *viz.*, indecisive battles, is a conclusion based not only on the teachings of the sailing ship period, but confirmed by the battle of the 10th August, 1904, where, for the first occasion in modern times, two approximately equal fleets were opposed to one another. The Japanese, indeed, attained their object, damaged the Russians severely, and prevented them from breaking out, but they themselves suffered such injury, that Togo, when he heard of the repulse of the assault on Port Arthur on the 21st, reported to headquarters that in the present condition of the ships and vessels employed in the blockade, the fortress could not fall too soon; a proof of the urgent need he had to repair his ships. If the Japanese had not had the advantage of interior lines, or if the action had been fought at the beginning of the war when complete command of the sea for the transport of troops was absolutely necessary for the Japanese, the victory might have fallen to the Russians instead of to the Japanese.

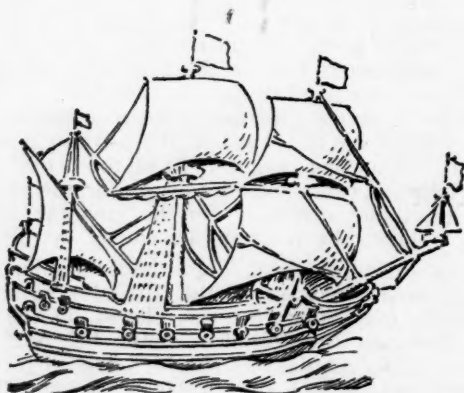
The Battle of Minorca was fought under similar conditions and with the same indecisive result. In this battle the part of the Japanese (the attackers) was played by the English; that of the Russians (the defenders of the harbour) falling to the French. This battle was considered a victory for the French; the advantages of the indecisive action fell to them, for the reason that England's nearest base was Gibraltar, whither her fleet had accordingly to retire, thereby permitting to the French free communication with Toulon.

That the Japanese, employing these tactics of the artillery duel, fought two decisive actions (Yalu and Tsushima) is owing, in the first battle, to their tactics, which—being at that time new and unexpected—enabled them to concentrate on the enemy's wing; at Tsushima the annihilation of the Russians was a direct consequence of their inferiority, not only in gunnery and *moral*, but also in speed. Under such circumstances it was easy for the Japanese to choose range and position. Apparently they did not aim at the T-position proper, since—so far as

is now known—the fleets never arrived in such a position. They steered approximately the same course with the leading ships a little ahead, and concentrated the fire of each division on the leading ship of the corresponding division in the opposite line. A proof of this is that the first ship sunk was not the leading ship, but the 5th ship in the line, the “Oslyabya,” flagship of the Second Division; she must accordingly have had her opponent almost on the beam.

Concentration in this battle consisted in the fire of several ships being united upon one of the enemy; tactics consisted in the opening of the action with the ships steering on similar courses. Isolation of the hostile forces is seen in the endeavour to obtain favourable positions.

(To be continued).



UNIVERSAL TRAINING IN THE NAVAL OR MILITARY FORCES OF THE AUSTRALIAN COMMONWEALTH.

Notes of Lectures delivered by the Quartermaster-General (Lieut.-Colonel J. G. Legge, C.M.G.), at the Special Camp of Instruction at Albury.
Published officially in Australia in 1911, and reprinted by permission.¹

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I.—PREFACE.

These lectures were intended to explain the new system of Universal Training and the practical administration of its provisions to the 400 Area Officers and Staff Instructors, who are more concerned than any others with the details of the amended Defence Act.

The lectures were chiefly explanations of the reasons for the Regulations and Instructions about to be issued, and advice as to the best method of carrying them out in practice. They are not to be taken or quoted as authorities. For such, the actual sections of the Act, Regulations, or Orders of the Military Board must be strictly followed. The Minister for Defence has ordered that these notes be printed and published for the use of other members of the Defence Force.

(Signed) J. G. LEGGE, Lieut.-Col.

EXTRACTS FROM A SPEECH BY THE MINISTER FOR DEFENCE.

The Minister for Defence, Senator G. F. Pearce, visited the training camp at Albury on two occasions; and on his last visit was welcomed by a large assembly of citizens. In the course of his speech the minister said :—

“Australia, all will admit, is a country worth having. Yet it is the only Continent owned by one people, and has never

¹ NOTE.—Since these lectures were published in 1911, a few alterations have taken place in numbers, hours of drill, and in some minor details. Attention has been called in footnotes to the more important of these changes; they do not, however, affect the value of the lectures as an exposition of the system of Universal Training now adopted in Australia, and of the spirit and principles on which it is based.—Ed.

been stained by bloodshed in war. If we mark on a map of the world all the countries stained with blood, Australia will be the only white spot. It has been our privilege singularly among all the peoples of the world, that we have been exempt from the horrors of war. What guarantee is there that this will continue?

"Australians are a peaceful business people who do not want war; but can we get others to think the same? There are nations not decadent who have defeated some of the so-called great powers of the world. History teaches that every country that becomes a conqueror grows land hungry and ambitious, and so Australia must prepare.

"While we believe the teaching of Christianity, that arbitration is the proper means of settling disputes, we must remember that the two parties must first agree to arbitrate. Are we prepared to arbitrate on a White Australia? Of course not. If, then, we are not prepared to arbitrate, the only logical alternative is to be prepared for war.

"Having decided this, we must have the best system of defence, the best training it is possible to get. Our army of defence must not be simply the aggregation of an armed mob, but men fit to stand up against any troops that may come along.

"As regards the cost of the scheme, this system of national insurance is but a mere bagatelle compared with the loss that would be caused by an aggressive cruiser coming to these shores. And, further, the horrors of war cannot be counted in pounds, shillings, and pence. If we are going to have a defence scheme worth having, we must have the best, and be prepared to pay for it.

"Australia has had differences of opinion, but this Camp typifies Australia actually united. The Area Officers will on Thursday be dispersed to all parts of Australia, and in January the young men will record their names for military service, and will realize that there is something more serious in life than cricket and football. It will enable them to realize that citizenship carries with it not only privileges, but responsibilities.

"Organization in business, or in any other sphere of human activity, is the secret of success. In this defence scheme we have a means of organizing the nation. I appeal to you as parents and citizens of Australia to use your influence and give your best assistance in making our scheme a success."

II.—NOTES OF LECTURES ON UNIVERSAL TRAINING.

INTRODUCTION.

1. The *Defence Act*, 1903, provided for both Naval and Military Forces, and under it the forces raised in the several

States were consolidated into Commonwealth Forces. The amending *Defence Act*, 1904, transferred most of the powers of the General Officer Commanding the Military Forces to a newly constituted body, called the Military Board, organized on the same lines as the Army Council in Great Britain. The two Acts are known as the *Defence Act*, 1903-1904.

2. It appeared to the Hon. (now Sir) Thos. Ewing, Minister for Defence, in the year 1908, that the present system of defence did not give Australia sufficient numbers in its Citizen Forces in proportion to the expenditure involved, that the standard of training was very unequal, and that an excessive proportion of the troops consisted of men of very short service, who resigned before obtaining a sufficient standard of proficiency. For these reasons, among others, an amending Bill was prepared, with the object of introducing universal training, which, however, went no further, owing to a change of Government.

3. In 1909, Senator Pearce prepared a further scheme with the same object, which was again frustrated by another change of Government.

4. During the same year, the Hon. J. Cook introduced an amending Bill, varying somewhat from the preceding proposals, which became the *Defence Act*, 1909. This, when consolidated with the former Statutes, is known as the *Defence Act*, 1903-1909.

5. By this Act, the principle of universal liability to be trained in the Defence Force in time of peace was made law for the first time in any English-speaking community.

6. The Act of 1909 prescribed Senior Cadet Training from 14 to 18 years, equivalent in duration to 16 whole days annually, but divided into convenient parades throughout the year, and Adult Training in the Citizen Forces from 18 to 20 years, equal to 16 days annually, of which 8 must be in Camp. The existing Citizen Forces were to be separately maintained, as at present.

7. At the end of 1909 and beginning of 1910, Field-Marshal Lord Kitchener visited Australia on the invitation of the Government, to report on the Defences of Australia. His recommendations were made public in the form of a Memorandum, in which he advised that Universal Training should be extended up to the 26th year.

8. A further change of Government having taken place early in 1910, Senator Pearce, the present Minister for Defence, introduced a second Bill, which was passed by Parliament before the end of the year. This *Defence Act*, 1910, is for the purpose of amending the previous Acts, and together with them forms the *Defence Act*, 1903-1910. It adopted in a strengthened form the recommendations of Lord Kitchener.

9. The operation of the clauses requiring Universal Training was proclaimed by the Governor-General (*Gazette* of 28th September, 1910) to commence on 1st January, 1911.

10. The comparative cost of the various systems may be obtained by dividing the maximum number proposed to be in training at the one period into the maximum annual expenditure for that period. Calculated thus, the average cost per annum per adult soldier in training in organized units is:—

Under the system hitherto in force	... ..	£32
Sir T. Ewing's scheme	... ..	7
Senator Pearce's first scheme	... ..	22
Hon. J. Cook's scheme	... ..	26
Lord Kitchener's proposal	... ..	16
Senator Pearce's proposals, now being carried out	... ..	17

It may be mentioned that the annual cost of £7 did not include any pay for the compulsory periods of training.

THE PROPOSED ORGANIZATION.

11. The population of Australia in 1911 is about $4\frac{1}{2}$ millions, of whom there are, on the basis of the last census:—

188,000 males of 14 years and under 18 years; and
295,000 males of 18 years and under 25 years.

Many of these will be found in districts too thinly populated to admit of training without excessive expenditure, or living at too great a distance from the several training places. A large number also will be found medically unfit for training.

Upon the figures at present available, it is estimated that we shall have in training, when the scheme is in full operation:—

100,000 Senior Cadets; and
112,000 Citizen Soldiers.

12. An army is organized by considering the numbers available, the length of service laid down by law, and the proportion of the various arms required.

The proposed organization for Australia, varying only a little from that of Lord Kitchener, as found necessary on closer examination of the numbers available, includes:—

93 Battalions of Infantry;
28 Regiments of Light Horse;
56 Batteries of Field Artillery;

and a due proportion of Engineers, Army Service Corps, Army Medical Corps, Troops for Forts, and other services.

13. By far the largest part of any army is Infantry, and the territorial organization of Australia is therefore based upon the Infantry units.

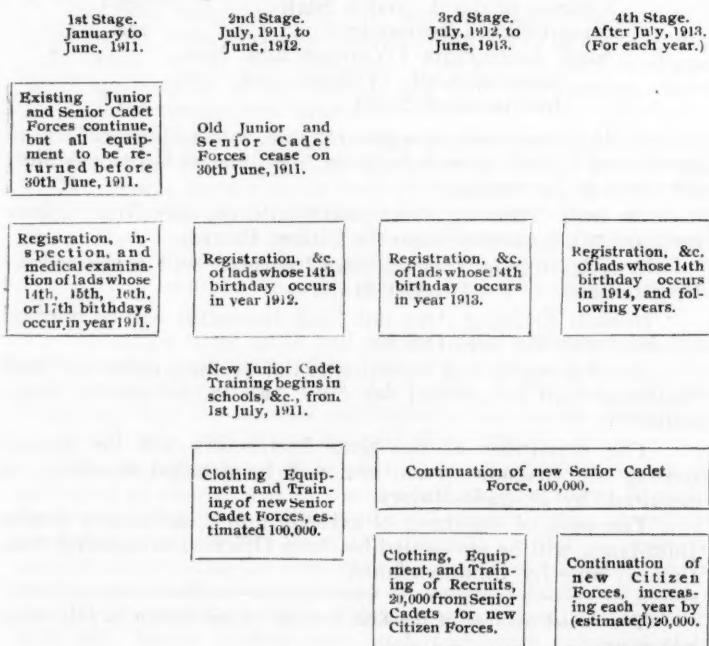
All that part of the Commonwealth not exempted by proclamation from the operation of the Act, is divided into areas containing approximately equal populations in the portions in which training can be carried out. There are 93 of these, and they are known as *Battalion Areas*.

Each will contain a complete Battalion of Infantry, and also larger or smaller numbers of one or more other arms of the service. For convenience in training and administration, the Battalion Areas will each be divided into two or three *Training Areas*.

The Battalion Areas are also grouped by fours into *Brigade Areas*, each supplying an Infantry Brigade of four battalions and a staff, and a proportion of troops of other arms. The Light Horse regiments will be formed into brigades like the Infantry, but such brigades are not co-terminous with the Brigade Areas. The other arms will be available for use with brigades during manœuvres, and for allotment as divisional troops when the higher organization of divisions is considered necessary.

Each Battalion Area will furnish for training in the Infantry Battalion about 922 adults of 18 years and under 25 years, with a quota of about 75 towards the Engineers, A.A.S.C., and A.A.M.C., roughly, 1,000, in all. It will, in addition, as stated above, supply Light Horse Units in some cases, and also troops for forts.

14. The new training will be brought into operation as shown in the diagram below:—



The creation of the units under the new organization will take place on a date to be notified later, during this period.

During this transition, the greatest care must be taken by members of every part of the Defence Force to prevent any estrangement or friction between the several parts. It must be recognized that, pending the creation of the units of the new organization, clear cut lines of demarcation in duties and responsibilities are in many cases impossible, and, if greater consideration is given to *the rights of Australia*, and less to fancied grievances and rights of individuals, all parts of the machine will work in harmony. The new scheme is much bigger in its numbers, and promotion will be open and rapid, but Australia needs for such promotion the best talents that can be got, and fancied rights, based on perfunctory attendances, at so many days' parades or other formal seniority, must not be allowed to count as a substitute for practical military efficiency and ability to command troops in the field.¹

ALLOTMENT OF STAFF.

15. The staff provided for in this year's Appropriation by Parliament for the territorial work of the new system and instructional work with existing troops, is as follows :—

Officers of the A. and I. Staff ...	...	58 ²
Area Officers (temporary) ...	...	224
Staff Instructors (Warrant and Non-commissioned Officers of the Instructional Staff) ...	...	425 ²

16. It is proposed, as a general rule, to detail two officers of the A. and I. Staff to each Brigade Area, one as Brigade-Major, the other as his assistant.

To each Training Area there will be one Area Officer (temporary), appointed from the Citizen Forces.

In each Brigade Area one Staff Instructor will be allotted for Brigade work to the Brigade-Major.

In each Training Area one Staff Instructor will be allotted for duty with the Area Officer.

To each regimental headquarters of existing units one Staff Instructor will be allotted for duty (two in the case of large units).

The remainder of the Staff Instructors will be divided among the Brigade Areas, and will be detailed for duty, as required, by Brigade-Majors.

The work of Adjutants of existing units, and of new Senior Battalions, will be performed by Area Officers, as detailed from time to time by Commandants.

¹ The actual number of the first transfer to the Militia in July, 1912, was 19,000.

² There are still some vacancies unfilled in these positions to which appointments will shortly be made.

17. There will in future be no distinction between the Staff allotted to the instruction of troops and cadets, and all Staff Officers, Area Officers, and Staff Instructors will be expected in the future to be equally capable of Light Horse or Infantry training. Some exceptions may be permitted in favour of older members of the Instructional Staff, who are not suitable for mounted work.

It is proposed, in the future, not to provide special members of the Instructional Staff for technical arms, but to have additional officers and N.C.O.'s in the Permanent troops, so that such may be detailed for instructional duty as required.

DUTIES OF STAFF.

18. The Instructional Staff and Area Officers are required to perform duty either with Light Horse, Infantry, or Senior Cadet units.

The Light Horse and Infantry are the "Line Regiments" of the Australian army. The Instructional Staff will also be required to instruct in mounted or foot drill for such services as Engineers, A.S.C., and A.M.C.

19. The Brigade-Major will represent the Commandant in his Brigade Area, and orders issued by him will be considered as "by order" of the Commandant. This system must hold good until the creation of the units of the new organization, and is only of a temporary character.

The Brigade-Major will be responsible for the instruction of officers of the existing Citizen Forces, will conduct local Schools of Instruction, supervise the work of Area Officers, instruct them in their duties, advise and help them in difficulties, detail the Instructors under his orders as required to perform the duties required with all units in the Brigade Area, bearing in mind the necessity of maintaining the standard of training in existing Militia units.

Although these units will not have the exclusive use of as many members of the Staff as before, it is to be borne in mind that the number of the Staff Instructors is doubled, and that when required the number available for any extra pressure of work with any unit is much larger than before.

The arrangements for the allotment of Staff Instructors must be varied as necessitated by the various stages outlined in para. 14, and the exigencies of the service will require, at one time all the *personnel* available to be at the disposal of Militia units, at another for training the new recruits, at another to help in registration and medical examination of Senior Cadets. Again, a Staff Instructor allotted to a Militia unit in a country town must help with Senior Cadets there, and, *vice versa* one allotted to duty with an Area Officer must help with any local unit of the existing forces. In all this the Military Board relies very much

on the patriotic assistance of Commanding Officers, while the period of transition is in progress.

The Assistant Brigade-Major will be under the orders of the Brigade-Major, will perform his duties in his absence, and may be required to fill the place of an Area Officer during a vacancy.

20. Area Officers' duties vary somewhat, both in kind and extent, as shown by the following conditions :—

- (a) Some areas are in one locality only, others contain several localities and much country, for which annual exemptions must be given at first. The numbers in city areas are much larger than in country areas, but this is compensated by the absence of time lost in travelling.
- (b) Their work at first is mainly organization and registration; later, the clothing, arming, and equipment of the new Senior Cadets, and the duties of Adjutant of some unit, then assisting in the training of Senior Cadets, afterwards of Recruits for the Citizen Forces, and finally the assumption of the varied duties under the full operation of the new scheme.
- (c) While the number and variety of the duties will increase during the first three years by a succession of steps, each of the duties first taken in hand will have become easier as the novelty has worn off.

In the duties of Area Officers, as in other cases, during the transition period all must be prepared to help the scheme in any way possible. Exactly defined duties are not possible, and efforts limited by close-drawn bounds cannot be permitted. Three years hence will be time enough to lay down the relative functions with more detail.

21. Experience has shown that Citizen Officers, with but limited leisure from their ordinary vocations, feel the burden of administrative duties rather than those of a combatant character, which afford sufficient change of scene and interest to become interesting. It is these administrative duties of which Area Officers are expected to relieve Citizen Officers, in addition to their own special work of organization. When the administrative work of the Citizen Forces is similar to that required in war, as in Camps of Training, then the Citizen Officers must be accustomed to the work; but on all other occasions the ordinary peace routine connected with clothing, equipment, recruit drill, transfers, pay, etc., can well be taken off their shoulders.

But it must not be imagined that Area Officers will have nothing but administrative work. As Adjutants, they will be called on to do their share of all training, and each for his own area must assist all units therein in their work, and supervise the recruit drill.

22. With the new units, as they come into being, and whatever arm they belong to, the members will go to the Area Officer

for all clothing, arms, equipment, pay, etc. He will always be there for them to apply to for advice: he will know all about their conditions of employment, the time most suitable for calling parades without unduly interfering with ordinary avocations, and, above all, he will endeavour to enlist the sympathy and help of the older men of the area, and to create that spirit of rivalry in work and sport between Training and Battalion Areas which is so productive of strenuous effort in Australia.

23. The numbers with which Area Officers will have to work will probably be:—

Junior Cadets	...	...	...	180-350
Senior Cadets	...	...	...	300-550
Adult Recruits	...	...	...	70-120

The duties of Area Officers with regard to Junior Cadets is dealt with in paragraph 92.

24. The transfer of Area Officers is not to be encouraged, more especially in view of the importance of their acquiring a thorough knowledge of local conditions in their areas.

Area Officers appointed in future will be required, either before, or within six months, to pass Schools in Light Horse and Infantry Training, and Musketry, of six weeks' duration.

25. The Staff Instructors (Warrant or Non-commissioned Officers) must not only drill recruits of the Citizen Forces, but Cadets also. They must be well up in such subjects as are required for the instruction of Junior Officers and the Non-commissioned Officers of the Citizen Forces.

Every Staff Instructor should be equally capable of instructing in Light Horse or Infantry Drill and Tactics. The drill of both is simple, and the tactics are practically the same.

All Staff Instructors are required to carry out the administrative work of the units or areas to which they are allotted. This will naturally be heaviest during the transition period. Notwithstanding, however, their being told off to some particular post, they are, nevertheless, available for any duty under the direction of the Brigade-Major.

For the assistance of the Area Officers, the Staff Instructors trained at Albury will, as far as possible, be selected, as they have had more opportunity for instruction in details of the scheme. All Staff Instructors are expected to make themselves familiar with it.

THE MILITARY COLLEGE.¹

26. Lord Kitchener advised the formation of a College to train permanent officers as Instructors of the Citizen Forces. The first course will commence shortly; it will probably last four years, and be followed by a tour of duty in England or India, and, finally a probationary year at Area work.

¹ The Military College has since been opened, 27th June, 1911.—Ed.

29. Temporary exemptions will be granted, of not exceeding twelve months' duration, but renewable from time to time, to those who are :—

- (a) School teachers, qualified as Instructors, or Officers of Cadets.
- (b) Members of the Permanent Naval or Military Forces.
- (c) Residents in exempt areas.
- (d) Residents in Training Areas who live at such a distance from training places that attendance would create hardship. (For the present, this will be taken as 5 miles by the nearest practicable route.)
- (e) Theological students.
- (f) Those found by medical examination to be "Temporarily unfit."

30. A permanent disqualification for service will be entered against those who have been found by a Court (*see* Section 141, D.A.) to be unfit to serve by reason of bad character.

31. Partial exemptions may be granted to—

- (a) Those not substantially of European origin or descent (Sec. 138 (1) (b), D.A.)
 - (b) Those who are forbidden by their religion to bear arms (Sec. 143 (3), D.A.)
 - (c) Those of the Junior Cadets, certified by the medical officers to be unfit for part of the training, so far as that part only (Sec. 138 (2), D.A.).
- Exemption only applies to training in duties of a combatant nature.

32. Further, the Governor-General has power to proclaim a limited exemption (Sec. 140 (d), D.A.). This may in the future be utilized in regard to those exempted as mentioned in paragraph 29 (c) and (d) above, by exempting them from all requirements (as adults) except a certain number of days in Camp annually.

33. Exemption certificates will be issued by the Area Officer or officer appointed by the District Commandant for exempt areas. Disputed cases will be referred by them to the Brigade-Major or Commandant. Failing acceptance of the decision given by the military authorities, the person concerned can appeal to a Court (D.A., Sec. 139, and Reg. 23).

Exemptions may be withdrawn by District Commandants (Regulation 21).

REGISTRATION.

See Part XIV., Sections 142—146, of Defence Act, and Paragraph 27, above.

34. The places appointed for training and registration, and for exhibition of notices, will be published by the District Commandant in Orders and advertised (Regulation 3). Changes will be similarly notified.

35. Those bound to register must do so in the month of January, or, if not then in Australia, within 30 days after completion of six months' residence therein.

Registration papers may be obtained at post offices, but if not available, particulars may be given on ordinary paper. The absence of a form is no excuse for failure to register. Parents, guardians, or those acting as such, are made responsible for the registration of those under age.

The registration paper, when filled in, may be posted or handed to the postmaster. In exempt areas it should be transmitted to the District Commandant, in other cases to the Area Officer.

The duty of exhibiting notices, keeping and issuing registration forms and transmitting them to the proper person, is laid upon postmasters (and postmistresses) by the Act, Section 145, and Regulation 4.

36. Persons registered and changing their address must notify the same within 30 days to the person to whom their registrations were sent, or to the Area Officer of the area in which they then reside. Sea-going persons are dealt with in D.A. Sec. 137 and Reg. 31.

37. Prior to the 1st January of each year, Area Officers and representatives of District Commandants should send to postmasters a sufficient number of Forms "M. 1, 2, 3, 4, and 5," and map showing area.

38. Area Officers will retain their registration papers, which should be sorted and grouped into those who will train and who will be exempt. The former again into groups for the separate localities. Each group should be sub-divided into classes by years of birth, and the classes arranged alphabetically. Probably, registration papers will not be wanted after the issue of the Record Book, but they should be filed in case of necessity.

In each class should be noted the number training with their school in another area. This could be kept on a card with the registration papers, so that the correct number available in the area in future years for the Citizen Force might be calculated.

INSPECTION AND MEDICAL EXAMINATION.

See Defence Act, Sec. 144.

39. Persons liable to be trained must attend when required for inspection or medical examination. The former can take

place any time, but is usually in connection with a medical examination. The places will be notified in District Orders and advertised (Reg. 3), and Area Officers will notify the day and time to those concerned (Reg. 8) by exhibiting notices or by post to individuals (Form M. 6).

The dates and times should be made as little inconvenient as possible to those examined and the Medical Officer, and no more should be required to attend at one time than can be examined.

40. Certain persons will not be required to attend for medical examination :—

- (a) Those who are not British subjects.
- (b) Those already enumerated in para. 29 (a) to (e), until the condition of temporary exemption ceases (Regulation 9 and 10).
- (c) Those already disqualified by the Courts (*see* para. 30).
- (d) Those known by the Area Officer to be absolutely unfit, blind, maimed, etc. (Reg. 11).

41. The Medical Officer should be assisted in his examination by the Area Officer and Staff Instructors when possible, and the clerical work performed for him. Thus, the weight, height, and other particulars, excepting the chest measurement, eye test, and fitness, might be entered by them.

The Record Book, M. 7, is for the use of those who will be trained; M. 8, is the office duplicate of this. Record Book, M. 9, a simpler form, is for those unfit and those temporarily exempted until their service begins, and for office copies.

Until the Medical Officer has decided whether a lad is medically fit, therefore, his Book, M. 7, should not be filled in. When the entries are made it must be signed by the Medical Officer.

The Statistical Cards, M. 10, may be made at the time of the medical examinations, or later. Instructions compiled by the Commonwealth Statistician will be available in each Area, and the completed cards will be forwarded to him direct. Cards will be sent in for those judged absolutely unfit by Area Officers, with reason for same thereon, but without other details. The Minister desires these important records to be carefully compiled.

43. In filling in the marks or scars on the record of medical examination, if possible, two such variable distinguishing marks should at least be noted, and, for preference, those on the face, hands, or neck. This is for identification purposes, and to prevent an evader from using the Record Book of one who has served.

44. Care should be taken that the arrangements for the medical examination will require no undue exposure of the lads, or subject them to risk of chills by remaining long undressed.

Extra Staff Instructors will be detailed when possible to assist.

45. The prescribed medical authority referred to in the Act and Regulations is (Reg. 19) : —

- (a) An officer of the Australian Army Medical Corps appointed for duty to the Training Area or to any unit in the area.
- (b) A duly qualified medical practitioner approved by the District Commandant; or
- (c) The Area Officer, in the case of those obviously unfit (Reg. 11).

RECORD BOOK.

46. The Record Book has already been mentioned, para. 41; it is ordered to be issued by Section 146 of the Defence Act. It should be noted that all entries in the Book are *primâ facie* evidence in a Court of law of the facts thus recorded; in other words, they are sufficient evidence, unless evidence to the contrary is shown.

For every Record Book issued, a duplicate must be kept by Area Officer of the Training Area, and when a lad is transferred to another area, the duplicate book will also be transferred. Duplicates should be sorted alphabetically, in classes (see para. 38).

47. Record Books, M. 7, should not be issued as a rule until 1st July, the beginning of the training year, or such date as the issue of equipment and clothing has been made, because this has to be recorded.

Unless permission to the contrary is given, every person undergoing training should when in uniform, have his book in possession.

48. Senior Cadets must produce their books for inspection whenever required, and, if they lose them, must pay 2s. for another (Reg. 48).

49. In view of Section 123B of the Act, no Cadet can be compelled to state his religious denomination. When they have no objection, however, it should be entered at the bottom of page 5 of the Record Book. The information will be of considerable use in the duplicates, when making arrangements for religious services in Camp, and, in the original books, would afford a means of providing a suitable burial for those who die on service.

NUMBERS.

50. In estimating the numbers likely to be available, we find that, in 1911, there will be about 4,500,000 people in Australia, of whom 2,200,000 have votes on the Electoral Lists of the Commonwealth. These lists, showing the number of electors in each division and sub-division (together with a sub-divisional map), are therefore a most valuable means of arriving

at the probable numbers in any area, because it may be fairly assumed that the population is twice the number of electors. This should be borne in mind in future proposed changes of boundaries.

A further guide is the population of cities and towns in the *Year Book of Australia*.

51. Having found the population of an area, it is then necessary to work out the probable number of Senior Cadets and Citizen Soldiers in training in the future.

We find that the population of Australia contains—

188,000 males of 14 to 18 years, and

295,000 males of 18 to 25 years.

Deduct about 10 per cent. as the possible medical rejections for Senior Cadet Training, and from 30 to 35 per cent. for Adult Training, and we ascertain that every area should supply, for every 1,000 of population, about 30 Senior Cadets and 40 to 50 Citizen Soldiers.¹

52. On this basis it has been determined not to commence training, normally, in centres with a less population than 3,000, and under no circumstances under 2,000, owing to the small numbers being insufficient for satisfactory training, in addition to the great expense involved in visiting a number of small centres.

53. It may be thought that 35 per cent. medical rejections in large cities is too high, but it is less than experience shows in European cities. Further, it has to be remembered that medical officers will bear in mind the bodily exertion required of soldiers in the field on active service.²

The uniform, equipment, and arms of an Infantry soldier weigh nearly 60 lbs., and with this he must be prepared to march 20 miles a day. To spend large sums on the equipment, training, and clothing of men who are not fit for War would be a breach of public duty, and hence the necessity for a weeding out in Peace of those who would become stragglers in War.

Apart from the matter of physical endurance, it is little realized how many, even in the country districts, are affected by weaknesses, at present in ordinary life perhaps causing no serious inconvenience, but in War bound, under the severe stress of exposure and fatigue, to throw out those whom they burden.

The medical rejections for the Senior Cadets are only put at 10 per cent., because it is desired in this stage to eliminate

¹ Speaking generally, the forecast has turned out slightly less than has actually resulted from the work during 1911-12.

² The average percentage of rejections (medical) at the age of 14 years is actually 7.6. The percentage of rejections at the age of 18 years, of Senior Cadets available for transfer to the Militia, is actually 15.3.

The reason of this apparent difference is that the earlier examination weeds out only those too weak for Senior Cadet Training, or who have some defect which they cannot grow out of, and which will certainly cause rejection at 18 years.

only those who are unable to bear the fatigue of the elementary training, or who already bear certain defects from which they cannot possibly be sufficiently free at eighteen years to be fit for service.

ALLOTMENT TO ARMS.

See Section 143 of Defence Act.

54. Sub-section (2) of the above section requires that all those liable to training shall be allotted to the Naval or Military Forces. It is intended that the Australian Navy shall have its pick of our lads. Naturally, those who live in certain localities, and belonging to certain classes of employment, will be selected by the Naval authorities. Our young navy will have many difficulties to overcome, and Australia's needs must have first consideration, not the individual wishes of those who wish or who do not wish to serve in the first line of defence.

55. Those not allotted to the Navy will be allotted to the various arms of the land forces, but not until their Senior Cadet Training is completed.

To commence the sub-division of the work in the Senior Cadets would involve a very largely increased staff and expenditure, and a decrease in the value of the training in minute detachments. The Senior Cadet Training will be of one character only, and will include the foundation work necessary for service in any arm, *viz.*:—Marching, discipline, the handling of arms, musketry, physical drill, first aid, guards and sentries, tactical training as a company in elementary field work, and some battalion drill (sufficient only of the latter to move large bodies in an orderly manner). Reg. 27.

Big parades are not our ideal, nor of any great practical value, but it is as well to be ready if the public feeling demands them, and there is small doubt that the people will not understand the magnitude of our undertaking until it sees what large numbers we are dealing with.

56. Mounted Cadets, Boy Scouts, Boys' Brigades, and all these kindred organizations, cannot be included in the new arrangements. Such of them as continue on a voluntary basis will not be interfered with, but their members cannot be excused from training in the units organized under the Defence Act.

SENIOR CADETS.

ORGANIZATION OF SENIOR CADETS.

57. All the Senior Cadets in a Battalion Area will be allotted to one Battalion. The strength will vary considerably, because such areas are necessarily unequal in size and population, and the number of companies will not be uniform, but this is no matter, as the Battalion is not a fighting unit or trained as such, and its appearance on parade as a whole will be rare.

For this reason, a Battalion Staff is seldom required on parade. It will therefore consist only of a Battalion Commander and an Adjutant (Area Officer). The Battalion Commander

will be a Citizen Officer, responsible for command, discipline, and recommendations for promotion, etc.

58. The Battalion Area is divided into two or three Training Areas, and the Senior Cadets in each will be allotted to companies, of the following establishment (Reg. 25):—

Captain	...	...	...	...	...	1
Lieutenants	...	...	...	...	...	2
Colour-Sergeant	...	...	...	...	...	1
Sergeants	...	...	...	...	...	4
Corporals	...	...	...	...	...	4
Buglers	...	...	...	...	...	2
Privates	...	...	...	...	...	106
Total ...						120

If there are not sufficient numbers in any locality, a company may be less than the above, the reduction being in privates, but less than 80 will be a *detachment*, i.e., part of a company, and will be joined to some other locality to form a company, the various ranks being allotted proportionately to each.

Companies should not contain any but those of the same Training Area, and, as far as possible, Officers, N.C.O.'s, and Privates should be from the same part of the Training Area, if it is extensive. The same principle should be followed in half-companies and sections.

TRAINING OF SENIOR CADETS.

See Sections 126, 127, and 133 of the Defence Act.

59. Training in every year begins on 1st July, and terminates on the following 30th June. The first training carried out under the Act will be that of the year 1911-12, of which the registration takes place in January, 1911.

For the purposes of the Act, those whose 14th birthday occurs at any time in the year 1911, will be considered of the age of 14 years on the 1st July, 1911, at the beginning of the training.

The Battalions will therefore have on 1st July of each year lads from $13\frac{1}{2}$ to $17\frac{1}{2}$ years, and, on the 30th June following, from $14\frac{1}{2}$ to $18\frac{1}{2}$ years.

Those who are passed out into the Citizen Forces every year on 30th June will be $17\frac{1}{2}$ to $18\frac{1}{2}$ years.

60. The duration of training is—

- 4 whole-day drills of not less than six hours¹ (probably held on public holidays);
- 12 half-day drills of not less than three² hours;
- 24 night drills of not less than one-and-a-half hours;³

¹ Since altered to four hours.

² Since altered to two hours.

³ Since altered to one hour.

but these can be varied, if approved by the Brigade-Major. Thus, instead of night drills, detachments at schools may have all their work in daylight.

These requirements are absolutely compulsory. The number of parades, called as *Statutory Parades*, will be increased by extra *Voluntary Parades*. The latter are for the purpose of enabling those who are backward to attain the necessary proficiency, to give an opportunity for practice to those preparing for promotion, and to make up for parades missed.

A statutory parade missed while on leave may be made up by attending a similar (or longer) voluntary parade, but a parade missed without leave can only be made up for "efficiency" purposes by attending *two* separate voluntary parades, each of equal or longer duration than the one missed.

Leave will only be granted in special cases (Reg. 28).

61. But attendance at the statutory number of parades alone does not satisfy the requirements of the Act. A perfunctory attendance is of no value to the country or the lad. The object of the Act is to make men fit to fight, and, consequently, every year, at the end of the training, there will be boards of officers in every battalion, who will classify the Cadets as "Efficient" or "Non-efficient." This will be entered in their Record Books, and the year's work of the lad who is non-efficient goes for nought; he will have to do an extra year's training for each failure.

62. The standard required will necessarily not be very high the first year, practically only what an average lad giving proper attention ought to have learned in the time, and in each successive year a higher standard will be expected.

The subjects taught are already given in para. 55, and a small manual is now in course of preparation, showing what parts of the authorized books are to be used, and giving details of matters not contained in such books.

Instructors must be careful not to work boys too hard, particularly the younger ones, and especially in physical exercises and in parades of considerable length. Emulation often leads boys to attempt what is too much for their strength, and this can only be prevented by careful watching on the part of the Instructor. Such lads should be made to stand aside and rest. It can be done on many excuses without hurting their feelings, and this also should be especially remembered when only a few are put aside. Never do anything to make a willing but not overstrong lad dislike to come to parade. Care may make a soldier of him eventually.

The Manual of Physical Training contains much valuable scientific information in regard to the proper development of lads without overworking them.

Area Officers should consider the convenience of those under training when suggesting dates of parades to Battalion

Commanders. Ample warning should be given of dates of parades, or changes therein, and there should be recognized places in every area in which they are posted.

In the training of Senior Cadets, the officers will be Citizen Officers. Some may be well up in their work, others not so. It is important that Instructors should do everything to support the authority of the Citizen Officer, and assist him to qualify for his responsibilities. But it is ordered that, when present on parade, half the instruction should be given by the Area Officer or a Staff Instructor.

LEAVE, ABSENCE, TRANSFERS.

See Regulation 28.

63. Leave may only be granted in special cases (Reg. 28) and is only made good by attending parades in lieu. A Senior Cadet moving to another area for some months, especially if the term includes 30th June, should apply for a transfer to the new area. For shorter periods he should apply to either Area Officer for permission to temporarily train in the new area (Instruction (1) after Reg. 31).

In certain cases, *e.g.*, living near the border of an area, he may be permitted to train in an area other than that in which he lives.

In these matters, Area Officers and the Staff should not raise routine difficulties, if substantial compliance with the Act is given, and every assistance should be given.

64. Absence caused by sickness of which the Area Officer is satisfied, should be taken to justify a "Temporary Exemption" for the time in question. Medical certificates cost money, and should not be demanded except in suspicious cases. Even in such cases, it may be necessary to have the assistance of the Medical Officer of the area. When such temporary exemption is of long duration, naturally so high a standard of efficiency cannot be expected at the end of the year.

65. In the case of those who for part of the year have lived in an exempt area, or at too great a distance from a training place, the same principle should be applied as in the last paragraph.

66. Transfers may be applied for either to the Area Officer of the old or new area. Clothing alone should be taken by the Senior Cadet, and a duplicate signature for the same should be obtained for the Area Officer of his old area, in view of the acknowledgment in the duplicate Record Book being transferred to the new area.

If transfer takes place after the "Efficiency" classification for the year, it should be entered before transfer.

SCHOOLS.

67. All educational establishments which have 60 Senior Cadets may be allowed separate units for training purposes,

provided every company or detachment has not less than one teacher of the institution as an officer. They will form part of the battalion of which the local Training Area supplies part.

68. Their parades may be arranged differently from those of the other companies in the area, but they must attend the same battalion parades.

69. The Senior Cadets in these units, if they live in other areas, must notify the Area Officers of those areas, in order that the latter may keep a correct account of those who will be available for adult training later on.

70. A Senior Cadet transferring from one school to another, or to the Universities, may be similarly transferred in the special units, provided the Area Officer of his residential area is notified.

71. Should students remain at such institutions after the 1st July of the year in which they become eighteen years of age, they may continue to train in the Senior Cadets or such special units as above mentioned. Their training, however, must be of the same standard and duration as in the Citizen Forces. This could be arranged by forming part of the special units raised at Universities, etc., or by doing part of the training with units of the Citizen Forces (*see* Defence Act, Sec. 128).

EVASION^d OF SERVICE.

See Sections 134 to 136 of the Defence Act.

72. No lad can be prevented from training by his employer, under a penalty of £100. He is not entitled to pay while away from work, but this should affect him very little if the dates of parades are suitably chosen.

Any lad who is prevented from serving by his employer, or whose pay is reduced, or any other influence to the like effect brought to bear should notify his Area Officer, and the necessary action will be taken to enforce the penalty. Any action having the effect of keeping the lad from parades throws on the employer the onus of proving the cause to be otherwise.

73. No person can escape liability by evading service. Some time or other he will be caught, and will then have to put in his full service, and, in addition, is liable to payment of a penalty from £5 to £100 for each year of evasion. The penalty may be inflicted, but cannot be enforced until the end of the year in which the offender reaches the age of eighteen years.

Further, he may be ordered by the Court into the custody of a member of the Instructional Staff or an Area Officer, to be drilled for the extent of time he has evaded training. Should he attempt to escape, he may be re-arrested and ordered by the Court to do additional training, up to twenty days for each offence.

74. While a defaulter in respect to training, a person cannot be employed by the Commonwealth.

NON-COMMISSIONED OFFICERS.

See Sec. 62 of the Defence Act, and Reg. 33.

75. Non-commissioned Officers of the Senior Cadets will be appointed on the results of competitive examinations of those in the next lower grade. The examination will be *practical* only, and candidates, after January, 1913, must have a specified length of service.

76. All instructors should make lads understand that their future advancement in the Defence Force of Australia depends almost entirely on the progress they make in the first two years of the Senior Cadet Training. There should be the greatest keenness to succeed, and every encouragement and assistance given to those attending the voluntary parades for qualification.

OFFICERS OF SENIOR CADETS.

See Defence Act, Sec. 62, and Regulations 34—43.

77. The officers of the Senior Cadets will usually be men of mature years, but a small number of Second-Lieutenants may be appointed under rules similar to those of N.C.O's. The junior officers will pass up into the Citizen Forces with others of the same year, and are then eligible for commissions in the Defence Force (D.A., Sec. 62).

It is hoped that the bulk of the officers of the New Senior Cadet Units will be provided by the present officers of old Senior and Junior Cadets.

78. The examination for officers of the Senior Cadets is laid down in Regulation 37, and their ranks are honorary ranks in the Defence Force. They may, however, take the same examination as officers of the Citizen Forces, in which case they receive substantive commissions.

79. Officers are provided with uniform free of cost (Regulation 49), and an annual allowance (Regulation 57).

UNIFORM FOR SENIOR CADETS.

80. Uniform is necessary for military training, ordinary plain clothes being unsuitable for the work. All classes will have to train together; there should be no distinction in dress, only that of proficiency as a young soldier. Uniform will always be worn on duty, never at any other time.

81. The issue of uniform involves great expenditure; therefore, it must be simple while suitable for the purpose. It will consist of hat, woollen shirt, woollen breeches, and puttees, issuable every second year. This will meet the requirements of growing lads, more especially as the design of the garments allows a certain margin in fitting.

82. In the first year of the system, we have little to guide us as to the proportion of sizes required, and a very large supply must be got ready by 30th June, 1911.

Area Officers should endeavour to complete the medical examinations, and send in their requisitions for garments, stating number of each size required, by 1st March.

83. Uniform will be taken by Cadets transferred to another area, or to the Citizen Forces (*see* para. 66, and *see* Regulations 49-53).

84. All Senior Cadets will wear the battalion numeral on the front of the hat. Officers, when wearing military shirts, will wear rank badges on the collar.

EQUIPMENT.

85. Regulations 50-55 deal with equipment. Arms are not to be taken to the lads' homes under any circumstances, and no ball ammunition is to be allowed to remain in their possession except while in position to fire at the range.

The Westley-Richards rifle, a light form of Martini-Henry, with smokeless powder, has the latest pattern of sights, and is capable of excellent shooting at short ranges. It will kill at 500 yards, and therefore would be quite serviceable for departmental troops in war.

The service rifle may be issued in small numbers to the elder lads who are good shots for the purposes of competition only. The cadet rifle will be used for all drill and cadet musketry.

All equipment issued is taken on charge in the ledgers of Area Officers, not by Battalions.

FINANCIAL CONSIDERATIONS.

See Regulations 56-58.

86. In every Training Area there will probably be, on the average—

Senior Cadets	...	...	300, minimum; 550, maximum;
Recruits for Citizen Forces			70, minimum; 120, maximum;
Trained Soldiers	...	...	250, minimum; 500, maximum;

and, in addition, some Junior Cadets not attending school.

To provide drill hall accommodation, offices, and store-rooms for these, on the scale often followed in the past, would mean an expenditure of about £3,000 on each locality, and there are over 300 of such localities.

The erection of such buildings would therefore entail an expenditure of £1,000,000, and at a time when all that can be spared is wanted for fighting equipment.

87. Already, the Commonwealth Government has been in communication with the Premiers of States, with the object of securing the co-operation and assistance of the municipal and shire governing bodies, and the replies have been most encouraging.

Should such assistance not be given in any case, we are no worse off than twenty years ago, when the small Defence Force

then in existence did very well in the then state of military science, even though we had to learn our rifle exercises by the light of the street lamps.

When the new scheme is properly understood, however, there is no doubt that the local bodies will do their best to help their own sons to whatever accommodation can be made available on the drill nights.

And we trust, too, that the local Mayors and their Councils will become the patrons of our lads' rifle clubs and encourage them in all their military competitions.

Failing all else, it is to be remembered that this is a working organization, and that all the room absolutely necessary for office and store-room can be provided by a small cottage in a working locality.

DISCIPLINE.

See Regulations 44-48.

88. All Cadets in a Military District are under the orders of the Commandant (Sec. 62 D.A.), and, under him, the Battalion and Company Commanders are responsible.

The Battalion Commander deals with military offences, or in the cases of detachments at a distance, the detachment commanders.

The Senior Cadet units are subject to the same rules for discipline as the Citizen Forces, and these rules are contained in the Defence Act and Commonwealth Military Regulations, with the exception that, instead of trying them in serious cases by court-martial, they will be brought before a Court of Summary Jurisdiction.

It is well to remember that certain new prohibitions have been made law by the Defence Act.

No Senior Cadet may have any cigarettes in his possession, or material for them, in uniform, on duty, or parade, or in any place used for military purposes (Regulation 47). The same prohibition applies to intoxicating liquor.

Nor may *any person*, soldier or civilian, have any such liquor in his possession in any place in which training under the new system is in progress (D.A., Section 123A). The penalty for any person subject to military discipline is not exceeding three months' imprisonment; in other cases, a fine of £10.

89. Military discipline should be taught as a regular subject, in connection with other work, because ten minutes at a time is the most that should be taken. Not being so interesting as other subjects, great care must be taken not to bore those under instruction, and one of the best methods is to ask questions as to what should be done in certain circumstances, correcting mistakes in the answers.

Similarly, citizen officers should receive assistance from the Staff Instructors, because it is most necessary that they should be familiar with the proper method of enforcing the rules required by an organized force.

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Similarly, citizen officers should receive assistance from the Staff Instructors, because it is most necessary that they should be familiar with the proper method of enforcing the rules required by an organized force.

Discipline, it is true, may be enforced by a system of punishments only, it is improved by the addition of rewards for excellence; but, with Australians, boys or men, experience shows that real discipline depends most on the *officer knowing his job*. Show a well-disciplined company and we all know it has a level-headed commander who knows his work.

90. Fines inflicted for breaches of discipline, if unpaid, can be recovered before a Court (*see* C.M. Reg. 297A), or can be deducted from pay subsequently earned in the Citizen Forces, or can be made a reason for classification as "Non-efficient," because no lad or soldier can be considered efficient who is in default in disciplinary matters.

Commanding officers in applying the scale of punishments laid down in C.M. Regs., must bear in mind that they are dealing with Senior Cadets, and at the same time remember what the lad is earning or the financial position of his parents, in fixing the amount of fine. What is little to one may be a serious loss to another.

JUNIOR CADETS.

See Defence Act, Sections 62, 125-127.

91. Training in the Junior Cadets commences on 1st July of the year in which boys attain the age of 12 years, and ceases on the commencement of training in the Senior Cadets, two years later.

The training is again of a more elementary character, and rather for the purpose of building up the frames of our future men and giving them knowledge of a general character not always taught in schools. Many of them may fail to "pass the doctor" later on, but they will be better citizens for their training and, if they serve, better soldiers.

The Act makes no demand for registration at the age of 12 years, but, later on, when they are registered, it will be necessary for them to satisfy the Area Officers that they have complied with the Act.

Regulations for the Universal Junior Cadet Training have not yet been issued, but will be available before commencement of the training. The paragraphs following deal with the probable provisions of those regulations as outlined in preliminary decisions of the Minister.

92. The Act provides that "where the required training is given by the masters of schools to the satisfaction of the prescribed officer, that training may be accepted as sufficient." It is expected that the majority of the boys liable will be thus trained. Those who are not attending school must be provided for by means of the existing military staff.

In the case of the Government schools the prescribed officers may be such State Inspectors of Schools or special Inspectors

of Physical Training, as are appointed by the Minister for Defence.

In the case of other schools the Department will also appoint either special Inspectors or Area Officers to see that the Act is complied with. It is not the intention in any way to interfere with the work of schools, which do the work laid down in the Act.

Facilities will be given by which the special instruction required can be imparted to school teachers at special Schools of Instruction, or during visits of the Physical Training Staff of the Department.

School teachers who thus qualify as Instructors will be exempt from Military Training under Section 138 (1) (c) of the Defence Act.

When training is not carried out by the schoolmasters, Area Officers will arrange for the Staff Instructors to visit the schools if possible, at such times as the work of the Staff will permit, otherwise the boys, like those not attending school, will have to attend when and where ordered.

93. The prescribed training for schools will be :—

- | | |
|---|---|
| (a) Physical training, not less than 15 minutes per school day, and attainment of a certain standard of efficiency. | |
| (b) Elementary marching drill (no time to be prescribed), with a certain standard of efficiency. | |
| (c) Miniature rifle shooting | } Every boy to attain a prescribed standard in at least two of these. |
| (d) Swimming | |
| (e) Running exercises in organized games | |
| (f) First aid instruction | |

The "Syllabus of Physical Exercises for Public Elementary Schools, 1909," adopted by the Board of Education, London, and recommended by the Conference of March, 1910, will be the text book for subjects (a) and (e).

94. The boys subject to Junior Cadet Training will be medically examined by Medical Officers of Areas, and those unfit will be exempted from all or part of the training.

95. Military uniform will not be issued and *must not be worn* by Junior Cadets. Penalty—Ten pounds. Uniform is not necessary for the work and the cost of it would be great. In view of the other great demands on the public purse, therefore, it will not be provided. To permit it to be worn would, as now, differentiate between those whose parents could afford it and the others. In complying with the public duty of training this distinction cannot be permitted. Area Officers will report any attempts to evade this provision.

96. The practice of assisting in the construction of miniature rifle ranges, issuing miniature rifles on loan, and granting

ammunition is to be continued. The rifles will be "Francotte" pattern, until the existing stock is exhausted, then an approved miniature pattern. The issue will probably be 10 per cent. of the numbers in training.

EXISTING CITIZEN FORCES.

97. The existing forces have been expensive and not so efficient as Australia needs. This has not been the fault of those in it, as a rule, but of the system. The number of men who did not complete three years' training was enormous, the proportion who completed musketry each year not high, and the proportion who were non-efficient much too large. Much of the trouble arose through conditions of employment, which will be removed under the action of the new Acts, and the new trainees, under the guidance of the stable and well-trained element now in the Defence Force, will enable Australia to gradually create a respectable fighting force.

98. For the present the existing units, now practically all Militia, will continue unaltered; but it is hoped that as many as possible will use this transition period to prepare for the many opportunities for promotion that will arise in the next three years. Those who are qualified will receive promotion, and those who fail to be ready must be passed over.

99. The magnitude of the new organization may be judged from the following outline:—

24 existing Infantry Battalions	will become	93.
18 " Light Horse Regiments	"	28.
18 " Field Batteries	"	56.

The increase in Light Horse is not so marked at first, as the first application of the new Acts is mostly to town areas. Later on, the expansion of the training will increase the mounted units at a much more rapid rate. Universal training must be applied first in thickly populated areas, because it is cheaper to carry out there, and because the town men require more training than those experienced in country life.

The new Field Batteries will not all be created at the beginning of the organization, but will be increased in succession. The other units will all commence at the one time, and other arms of the services will be multiplied in proportion to the Infantry and Light Horse.

THE NEW CITIZEN FORCE.

100. Those who first become liable to training in the new Citizen Forces will be the eldest class of those who commence Senior Cadet work on the 1st July, 1911. A year later, they will have had a year's experience of elementary training, and, on 1st July, 1912, those who were born in year 1894 will be allotted to the several arms of the service in the new organization, and will commence their first, or recruit, year in the new Citizen

Forces. They will not be raw recruits, and still less will those be who pass up from the Senior Cadets in later years, but they will be recruits in reference to the special training of the arm to which they are allotted.

101. On this day, 1st July, 1912, the actual new units receive their first members, and on some date subsequent to this the old organization, the Militia units, will divide up to create the main stock of the new regiments, to which each year some 20,000 new trainees under the Act will be grafted.

102. Units will be armed as now, with the same weapons as used in the British Army, and with complete equipment for war in regimental mobilization stores. The uniforms will be simple and suitable for active service, and will be issued in such proportions that, on being called out at any time for active service, each soldier should be able to parade with—

Shirts, military, woollen, khaki	...	...	...	2
Breeches	...	...	...	2
Great coat	...	...	...	1
Hat	...	...	...	1
Cap (sleeping)	...	...	...	1
Puttees, woollen, khaki, pairs (or 1 pair leggings, leather)	...	...	...	2
Boots, military pattern, pairs	...	...	...	2
Kit bag	...	...	...	1

The boots will be kept, greased, in regimental stores, and used only for Camps of Training, but after completion of service they will be given to the soldier.

In this way only, except at great additional expense, can a Citizen Force be prepared to mobilize in a reasonable time, so far as concerns personal outfit.

Jackets and trousers, on present lines, are only to be issued to officers and sergeants.

103. The success of any large Citizen Force must depend upon the character and training of the Citizen Officers and N.C.O.'s, and, indirectly, on the Permanent Staff who train them. In time of war, everything may be said to depend on them.

The future force is planned to be 120,000 of all ranks, including about 5,000 Citizen Officers and 8,000 N.C.O.'s.

The Permanent Instructors in the new scheme include some 300 Officers and 400 N.C.O.'s.

In time of war, half of these at least would be needed to train the reserves and new units, and the remainder would be an infinitesimal part of the whole force. This emphasizes the necessity of training the Citizen Officer to the highest responsibilities in leading and command. But a small proportion of them, having other professions to attend to, can ever become well versed in peace administration and general organization outside their own units, or in the highest technicalities of instructional work, but in actual leading of troops and command

in the field there is no reason why they should not be just as proficient as regular soldiers.

104. With this object in view, only the best brains and hardest workers will be selected at the annual competitive tests for promotion to a higher grade, and, while Australia will be getting N.C.O.'s, and afterwards officers, who are the best men of their years, it will be a startling lesson to other so-called democratic nations in the application of the principle, that *the best soldiers must lead, whatever their civil avocation or birth.*

RESERVES.

See C.M. Regs. 518, 132a, 514a, 605-608.

105. No provision was made in the Acts of 1909 and 1910 for the creation of any new Reserve. Not till 1st July, 1920, will any of our new Citizen Force pass out of the organization created by these Statutes. Till then, any shortage required to make those in training to the war establishments must be provided by the members of the Rifle Clubs and those on the Reserve Forces lists.

No doubt, when the system is in full work, later on, arrangements will be made for the reserve organization of those who pass the age of 26 years.

It is probable that large numbers will desire to continue the most fascinating part of a soldier's work, rifle shooting, and remain, as in Switzerland, members of the Rifle Clubs.

HIGHER TRAINING.

106. Military history may be taken in a right or in a wrong sense. Some of our Australian officers and soldiers have some experience of war in South Africa, very few elsewhere. Some judge all military problems by what they experienced in South Africa; in that they are wrong; the conditions were peculiar probably to that single war, and may never occur again; the enemy were all mounted riflemen, they had little knowledge of strategy, much of cunning, none of discipline. Others, for these reasons, think that such experience will be of no value in the future.

Both are wrong; valuable deductions may be obtained by study of this war, even if we were not there, when we give due weight to the conditions in force. So, too, with the Manchurian and other wars. And in this study of military history lies the secret of the future success of Australia's troops, the attainment of a knowledge of what could be done in the past under all sorts of conditions, and a reasoning and well-balanced judgment of what may be attained therefore in the future.

107. With this object, the Government now assists the work of the United Service Institutions in the several States; it conducts Schools of Instruction, Staff Tours, is arranging for

the publication of a military magazine, and is about to create a Military College.

108. With the new system, the younger officers will realize the value of the assistance given them to fit themselves for their responsibilities—life or death, maybe, to the men under their orders. Part of our present officers have realized it, and have done their best; the others will, no doubt, find the new order of things too trying. Too much has often been heard of officers' rights to this or the other thing, his right to promotion, &c., and too little of the rights of Australia. Australia has a right to give commissions to those she finds fit for the work, and when and how she pleases, and to place them in the Reserve if it be thought necessary; the defence of our country is of more value than the rights of a thousand individuals. If this principle be always kept in mind, we shall do our duty better.

WAR.

109. If war should occur to-morrow, how should we stand? Now, and for the next two years, we should have at most 50,000 of all ranks, more or less trained. It would be difficult to concentrate more than 30,000 in any one place.

The new system will give us in eight years' time a force of 126,000 trained men and fully equipped. Every year afterwards will increase the reserve by 12,000 men. And if the training be extended, as it easily may, into the country areas, the numbers may be increased by 40 per cent.

110. What do we want all these troops for? At present there are no clouds on the country's horizon, but, on the other hand, there are many, and not fools either, who do believe war likely. Whether war is likely or no is not the question, however; it is whether war is possible, and what war, and what might be the result to Australia. This we must put before our minds, when we have to think as a people of the sacrifices to be undertaken to ward it off.

111. Nations apparently fight very often for but small excuses, but there are underlying reasons always that are not so apparent. The desire of larger territory, of increased trade, of clearing away distasteful restrictions, even the barefaced desire of the strong to impose his will upon the weak; these and many others decide the rulers of a nation to undertake a war.

The superficial cause, after the secret decision is taken, may be so trivial a matter as the arrest of a fellow citizen in the threatened country, an extravagant and impossible demand for a humiliating indemnity, the consequent refusal, and an act of war.

112. Australia is about to make great sacrifices in money, and its male citizens equally great sacrifices in time given to parades and thought and fatigue in the attainment of efficiency; but there is yet a third necessity not yet mentioned. Neither the one, nor the other, nor both together, will make more than a

lifeless and mechanical representation of an army, unless it has also enthusiasm. Call it this, or patriotism, or *bushido*; it matters not, we all know what it is.

Without it would the Boer have struggled on through a three years' hopeless war, the Japanese soldiers have rushed forward to fill the ditch that their comrades might pass over to victory? Without it, would the little Swiss Republic have time and again reorganized their Citizen Army, after more than once suffering all but annihilation?

Some nations know what war really means. The Swiss mothers have heard from their grandmothers what the Napoleonic Wars meant to many of them. The Chinese women whisper how but a few years back their sisters threw themselves into wells after the foreign troops had passed. Infant children have been tossed on bayonets, even in the last ten years. It is true we did not make war like this in South Africa, but we do not choose our enemy or his methods.

This is why we want an army. We do not want war, and keeping an army fit for defence is the best preventive.

113. Australian mothers have, fortunately, no experience of war, nothing that they can personally feel and instil into their children as yet, until pride in the new national force comes into being. Without it, we must turn to some other motive for the enthusiasm that means success.

Young Australians are fond of open-air life and sport. Drill and manoeuvres will give them the former, and the introduction into all their military work of the system of competitions will afford scope for the latter. Properly made use of, there is nothing Australians will not achieve to succeed in what appeals to this sentiment.

114. It is proposed, therefore, to have regimental and brigade competitions in all exercises forming part of military training, and to bring the champion teams of States to Federal competitions for the blue ribbon of the Australian Army.

In this all can help—fathers, mothers, and sisters—by encouraging the spirit of territorial rivalry that results in excellence of work. It only needs the will for Australians to make themselves the best soldiers in the world.



THE NEW AUSTRIAN ARMY BILL.

1. The new Army Bill was officially promulgated on July 5th. The peace strength of the Army had been rigidly fixed at 305,000 men by a previous Bill of the year 1889. This strength calculated on the basis of the then existing units had in course of time become altogether insufficient. Fresh units, rendered necessary by the advance of military science, had to be created, and the personnel for these could only be obtained by depleting those already existing. In course of time the peace establishments of all units became dangerously attenuated, thus the actual peace strength of an infantry company was rarely as much as 30 per cent. of its war establishment. Widening fissures in the military fabric were everywhere noticeable, and its cohesion was becoming dependent on an intricate web of undesirable expedients. An increase of personnel was necessary, and in order to obtain this, the reduction of the term of colour service from three to two years was conceded. This reduction and the extension of the total period of service from ten to twelve years are the main features of the new Bill.

2. For the Cavalry and Horse Artillery, however, the previous term of three years' service and seven years' reserve service is retained, a proviso which is now made applicable to the *Landwehr* cavalry, whose term of service is therefore increased from two to three years. Nor was it found possible to shorten the time of service in the Navy, which remains fixed as before at four years.

3. The Bill is not to be brought into force immediately. The new terms of service will not be applicable to the personnel at present serving, nor to the first three annual contingents after the date of its promulgation. Moreover, in any unit where the number of N.C.O.'s falls short of the establishment, a number of men equal to the number of N.C.O.'s deficient is to be retained for a full period of three years.

Men who are absent from duty for various causes, sickness, etc., as also men of unsatisfactory behaviour, may also be ordered to complete a full three years' term of service.

Volunteers have a choice of units.

On the other hand certain categories of men, with educational and other qualifications can only be posted to branches in which the term of service is for two years only.

4. Generally speaking, the two year service will not be completely established until 1917. It will be introduced immediately in the Train troops, Medical Service, and subsidiary

branches only. Circumstances will, however, probably permit of this privilege being immediately extended in the shape of furlough to a limited number of men in the Infantry and Artillery.

5. The new recruit contingents voted are: For the "Common" Army, 159,500; Austrian *Landwehr*, 26,996; *Honved*, 25,000; as against 103,000, 20,000, and 12,500 in the past. It is not proposed to draw the full contingents allowed by the new law, forthwith. This year for the "Common" Army only 136,000 will be taken, next year 154,000 and the maximum 159,500 will be taken in 1914 and subsequent years.

In the Austrian *Landwehr* the process of working up to the maximum will be even slower. The recruit contingents will be for the first year, 20,715; second year, 22,316; third year, 23,717; fourth year, 25,018; fifth year, 26,019; sixth and subsequent years, 26,996.

In the *Honved* 17,500 recruits will be taken in the first year, 21,500 in the second, 25,000 in the third and subsequent years.

6. The increase in the peace strength of the "Common" Army when the provisions of the new Bill are fully in force will be about 30,000 men; of the Austrian *Landwehr*, 7,500; of the *Honved*, 18,000. A total increase of about 55,000 men. (See table at end of paper).

7. These additional numbers will be utilized in the "Common" Army chiefly for increasing the peace strengths of existing units, by relieving them of the incubus of "employed men," and to supplement men employed in a dual capacity. A few small subsidiary units only will be formed in addition to those now existing.

In the Austrian *Landwehr* the increase¹ is to be used in a similar manner, but in addition it seems probable that sufficient batteries will be raised to find the whole divisional artillery for the *Landwehr* divisions. This proposal, however, does not appear as yet to have taken definite shape.

In the *Honved*, large additions are to be made to the peace establishments of units, more especially in the Cavalry. An addition of three battalions and 70 field batteries has been sanctioned. Certain new subsidiary units, such as field hospitals are to be raised.

8. For the *Ersatz* reserve the initial period of training will be ten weeks instead of eight as before, and there will be three subsequent yearly trainings, not exceeding a total period of four weeks. The total period of service will be 12 years.

¹ An increase of peace strength is spoken of by which 80 men per btn., 150 men per mountain btn., and 100 men per cavalry regt. would be added. An addition of 32 batteries is also foreshadowed.

9. *Einjährig*ers, except in the Cavalry, Horse Artillery and Train, will no longer serve as before at their own expense, but at that of the State.

SUMMARY.

	Present Peace Strength.	Peace Strength in 1917.	Increase. ¹
Common Army	305,914	336,000	30,000
Austrian Landwehr	48,084	55,600	7,500
Hungarian Honved	32,770	51,000	18,000
Total	386,768	442,600	55,500

¹ The strength of the *Landsturm* will be correspondingly reduced, by two yearly classes.

THE WAR IN THE MEDITERRANEAN.

(A) General.

Italy.

RETURN OF THE COMMANDER-IN-CHIEF.—General Caneva arrived in Rome on 30th August, to confer with the Ministry. The *Morning Post* of 2nd September stated that a Cabinet Council was to be held on September 14th, when the question of General Caneva's return or his retirement from the post of Governor of Libya would be decided; and that meanwhile there would be no check in the autumn campaign, when it is intended to occupy Gharian.

This statement was followed on the 5th September by an announcement that as the first phase of the military operations in Libya had been carried to a successful conclusion by the effective occupation of the Mediterranean littoral, it had now been decided to form two independent commands in Tripoli and Cyrenaica with a view to facilitating operations in the interior, General Caneva is, therefore, relieved of his command and replaced by General Ragni in Tripolitana, and by General Briccola in Cyrenaica. These two officers will have the same civil and military powers in their respective spheres as were formerly exercised by General Caneva over the whole of Libya.

INCREASE OF ESTABLISHMENT.—The following additional units, created by the Royal Decree of 7th December, 1911, have now been formed:—

Infantry of the Line.—The 4th, 6th, 7th, 18th, 20th, 22nd, 30th, 34th, 35th, 37th, 40th, 50th, 52nd, 57th, 60th, 63rd, 68th, 79th, 82nd, 84th, 89th, and 93rd, a fourth battalion each.

Bersaglieri.—The 4th, 8th, and 11th have each formed a new battalion, numbered respectively 37th, 38th, and 39th.

Cavalry.—The (15th) Lodi Regiment has formed a sixth squadron, the (16th) Lucca Regiment a sixth and seventh squadron, the (18th) Piacenza, and the (19th) Guide, a sixth squadron each.

Field Artillery.—The following new batteries have been formed:—5th and 11th Regiments, one new battery each numbered the 7th; the 16th, 17th, 21st, and 27th, a new battery each numbered the 6th.

Fortress Artillery.—The following new companies have been formed:—3rd Regiment, 13th and 14th; 6th Regiment, 11th and 12th; 7th Regiment, 10th and 11th.

Mountain Artillery.—The 1st Regiment has formed the 28th and 29th batteries; the 2nd Regiment the 30th, 31st, and 32nd; and the 3rd Regiment the 33rd battery.

Engineers.—The 1st and 2nd Regiments (sappers) have each formed a 5th battalion (13th and 14th companies), the 3rd Regiment (telegraphists) the 16th company, and the 5th Regiment (miners) the 13th company.

These units will probably form part of the new Colonial Army in Libya. The total peace strength may be estimated at 22,000 rifles, 750 sabres, and 60 to 72 guns.

RELEASE OF RESERVISTS.—The 1889 class of reservists, whether serving in Italy, the Aegean, or Libya, will be released from service. The men serving abroad will be sent home gradually, beginning on July 20th, and the men serving in Italy will leave the Colours on August 15th.

About 70,000 men in all will leave the Colours. The reservists serving in Libya and the Aegean will be replaced by the 1891 class.

The units in Italy will lose 50 per cent. of their numbers, and the 1892 class of recruits has not yet joined the army.

FINANCE.—A further credit of £800,000 was recently authorized to the Minister of War for the expenses in Libya.

SUBMARINE CABLE.—The new Italian cable from Syracuse to Tripoli has been completed.

AERONAUTICS.—An article in the *Times* of the 12th August, by their correspondent recently in Tripoli, states that five types of aeroplane have hitherto been used in Libya: Nieuport, Blériot, Deperdussin, Etrich, and Henri Farman. The most remarkable features of last winter's work, in the writer's opinion, were the frequency and regularity of the ascents and the freedom from serious mishaps, in spite of strong and unusually persistent winds; thus it is stated that in six months Captain Moizo made 82 flights, Lieutenant Roberts and Lieutenant Gavotti 80 each, and Captain Piazza 70. Flights of 142 miles, to Gharian and Tarhuna and back over an enemy's country were made by the two last-named airmen. The machines were often hit by rifle bullets and on two occasions airmen were wounded, but they were able to descend safely within the Italian outpost line. The correspondent adds that, in addition to giving information about the enemy, the aeroplane reconnaissances have been of great use in determining errors in the existing maps.

(B) Naval Operations.

RED SEA.—A telegram to the *Times* reports that the forts and camps north of Hodeida were bombarded on the 28th July by the "Piemonte" and "Caprera." The fortress on the extreme north was dismantled and the centre fortress was set on fire; the Turkish camp was completely destroyed, a magazine being blown up by the fire of the ships at 3,000 yards range.

(C) Operations in Libya.

ZUARA.—It is reported that General Garione has occupied Regdalina.

ZANZUR.—An attack was delivered on the Italian works at Zanzur on the morning of 6th August; the enemy are stated to have been repulsed by the fire of the infantry and guns.

THE BATTLE OF ZANZUR, 8TH JUNE, 1912.

(See Map on page 1320).

The following narrative of the attack on Zanzur (which was shortly described in last month's JOURNAL) is compiled chiefly from a narrative in the *Tribuna*, based on official reports. The action presents many points of interest to the military student, especially as regards the *échelonnement* of reserves in rear of an exposed flank.

As is seen from the map, a ridge 60 to 80 feet high runs parallel to the coast. The caravan road (Gargaresch—Bir) lies south of the crest,

The Turco-Arabs were known to have (a) 5,000 men near Suani-Beni-Adam; (b) 5,000 at Bir Tobras and Fonduk Ben Gascir; and (c) 3,000 at Zanzur, to the east and north-east of which place they had thrown up strong entrenchments. Sidi Abdul Galil, an old blockhouse on the coast, 1,200 yards from the Zanzur oasis, was also strongly entrenched.

PLAN OF OPERATIONS.—It was decided to attack the force at Zanzur, the general plan of operations being as follows:—

The 1st (Camerana's) Division was to assemble at Gargaresch in the night, 7th-8th June, and was to advance in two columns at daybreak. The right (northern) column, moving along the seaward slope of the coastal ridge, and supported by the guns of the war vessels, was to occupy Sidi Abdul Galil as soon as possible, and then to turn southwards so as to enfilade the entrenchments east of the oasis; the left column, moving along the southern slope of the ridge, on the left rear of the northern column, was to protect the latter's left flank against any action by the two groups of the enemy to the south-east (*a* and *b* above), and make a frontal attack on the trenches between the two caravan roads, thus preventing their defenders from turning against the northern column. Further, in order to protect the left of the southern column, during its advance, from a possible flank attack by the group of Turco-Arabs at Suani-Beni-Adam, a reserve (described as the First Reserve) under General Frugoni, commanding the Special Army Corps, was to be stationed near Gargaresch; while, in order to guard against an attack on the left rear of the 1st Division from the direction of Fonduk Ben Gascir or Bir Tobras, an additional echelon (described as the Second Reserve) was to be posted at Bu Meliana Wells, a point in the defensive perimeter of Tripoli.

The preparations for the advance occupied two days, and appear to have been very complete. Materials for fortifying Sidi Abdul Galil as soon as it should be captured were packed in some 50 motor vehicles; ammunition and stores of all kinds were accumulated at Gargaresch; hospital trains were held in readiness on the Gargaresch—Tripoli branch line for the transport of wounded, while a convoy of boats was prepared to land stores at Marsa Zanzur. Endeavours were also made by dirigible and aeroplane reconnaissances to obtain precise information as to the enemy's movements and defences.

The composition of the various echelons which assembled at 4 a.m. on the 8th June was as follows:—

(A) *Attacking Force, 1st (General Camerana's) Division:—*

Right Column (Giardina's Brigade). 6th Regt. (three battns.) 40th Regt. (two battns.), one co. Customs Guards, two mountain batteries.

Left Column (Rainaldi's Brigade). 82nd Regt. (three battns.), 84th Regt. (three battns.), two shielded batteries, and one co. of sappers.

(B) *The First Reserve* formed up south of the Gargaresch defences, under General Frugoni, G.O.C. Special Army Corps (who was in charge of the operations): the Cavalry Brigade (General Carpinetto), two battns. 37th Regt., the Eritrean Askari battn., one mountain battery. Some heavy guns and a section of mortars were also held in reserve near the "Redoubt" west of Gargaresch.

The Second Reserve (Major-General Montuori): 50th Regt. (two battns.), 23rd Regt. (one battn.), one composite battn. of 18th and 93rd Regts., one battn. 63rd Regt., and one mountain battery. Lieut.-General de Chaurand, G.O.C. 3rd Divn., was in chief command of this Reserve.

This reserve was assembled at Bu Meliana, but at 4 a.m. it was ordered to advance two miles along the road to Fonduk Tokar, so as to be more easily available.

Total force employed:—19 infantry battns., one co. Customs Guards, one co. engineers, eight squadrons, four batteries mountain artillery, three field batteries, three batteries of heavy and fortress guns, one section mortars. Total 13,494 rifles, 12 machine-guns, 50 guns.

General Frugoni took up his post in the look-out station of No. 3 redoubt. The "Carlo Alberta," "Citta di Siracusa," and the torpedo-boat "Ardea" were off Gargaresch.

ADVANCE OF CAMERANA'S DIVISION.—About 4 a.m. the 1st Division moved off, Giardina's brigade slightly in advance, and maintaining touch, by means of a special signalling detachment, with the warships, which kept abreast of the column. (The narrative does not state which column was accompanied by the Divisional Staff). At 4.30 a.m., a Q.F. battery, escorted by III/82, came into action in a position of observation; almost at the same moment Giardina's advanced guard (II/6)¹ encountered some Arab patrols, and fire was opened from the Arab trenches, the position of which was revealed, in the dim light, by the flashes of the rifles. Fire was at once opened by the battery in observation, the heavy guns and mortars near the redoubt at Gargaresch, and by the war vessels. Under cover of this bombardment the right column pushed rapidly on, but, at 5.15 a.m., it was checked by heavy fire from trenches before it and on its left front.

General Giardina now moved II/40 and I/6 up on the right and left respectively of his advanced guard, while III/40 and the engineers pushed rapidly on along the seashore against Sidi Abdul Galil.² III/6 and the Customs Guard were retained as a reserve to the column.

General Rainaldi, perceiving the situation, pushed forward his right wing (I/82 and II/82) against the trenches between the two caravan roads; the whole 84th Regt. was held in reserve to the left rear of the right wing; two Q.F. batteries advanced to a position west of Bir, the third battery remained, for the present, at its former position.

Giardina's frontal attack was held in check for an hour and a half by the entrenchments on either side of the northern caravan road; these trenches are said to have been skilfully constructed, for fire standing, with practically no command, and a glacis-like field of fire 1,000 yards in width; the defenders presented no target to the attack, while a good system of communication trenches leading to the rear allowed the supports to reinforce any threatened point; moreover, the attackers were taken in flank by fire from the trenches to the south-west.

¹ The notation II/6; III/40, etc., is used to denote 2nd battn. 6th Regt.; 3rd battn. 40th Regt., etc.

² According to another account it was the advanced guard battn. which advanced along the coast.

At length, however, it was found possible to advance by short rushes, supported by the fire of the mountain batteries which accompanied the attack, and a fire position was gained 50 yards from the first trenches. Here a pause was made while the artillery continued its fire, and the line then rose and charged, leaping into the trenches and bayoneting the defenders. About the same time the flank attack, working along the coast, supported by the fire of the ships, had captured Sidi Abdul Galil. As the enemy still held the trenches further in the rear, Giardina now sent forward his reserve battalion, and the line, thus reinforced, rushed forward with colours flying, and stormed the position.

Meanwhile, on the left, Rainaldi's Brigade, with the whole 82nd Regt. in the first line, had carried the trenches in its front, but had finally had to stop firing to avoid hitting Giardina's troops; a portion of the 6th Regt. had been drawn into this attack. One battn. of the 84th, from Rainaldi's Reserve, had been detached to the south-east to assist the First Reserve, as will be described later on. Camerana's Division was now concentrated, the 82nd and 84th Regts. holding the captured position, facing west and south, while Giardina's Brigade fortified the ground they had won.

THE TURCO-ARAB COUNTER-ATTACK.—At 5.20 a.m., a Turco-Arab force had been seen approaching from the south, and moving as if to envelop the left of Rainaldi's column, which had now become separated by some distance from the First Reserve at Gargaresch. The attacking force is said to have been the Suani-Beni-Adam contingent, numbering about 5,000, and including many horsemen.

The Cavalry Brigade and the Erithrean battn. were accordingly detached from the First Reserve, with orders to check the movement, and cover Rainaldi's exposed flank.

General Carpinetto (G.O.C. cavalry brigade) moved some two and a half miles south of Gargaresch, beyond which limit the sand dunes precluded the employment of his cavalry; at 7 a.m., as large hordes of the enemy were seen thronging forward to the attack, he took up a position (see map) with the Erithrean battn. (two companies in the firing line and one in reserve) facing south and south-west, and two dismounted squadrons of the Lodi Cavalry Regt. on their left. The attack soon developed, and was pushed home with so much impetuosity that it was found necessary to prolong the line to the left (east) by two more squadrons of dismounted Guides, while the Florence Lancer Regt. (mounted) was held in reserve in rear of the left flank.

Carpinetto's position appears to have suffered from the defect that the ground masked the enemy from the fire of the reserve artillery at Gargaresch. The enemy displayed so much determination in the attack that at 8 a.m. reinforcements were asked for, and General Frugoni sent orders for Carpinetto to fall back towards Gargaresch, informing him at the same time that a battn. of the 37th and the mountain battery were advancing to his support, while the Second Reserve was moving to take the attackers in flank from the east.

The difficult task of breaking off the action was carried out by a retirement in successive echelons, with the aid of a section of machine-guns, a Q.F. battery, and III/84, which had arrived from Rainaldi's Brigade. The enemy pressed the retiring Erithreans vigorously, constantly endeavouring to envelop their left flank, till about 10 a.m., when they

came under the fire from the heavy guns at Gargaresch; this checked their advance, and they began to fall back deliberately. Carpinetto now brought up the battalion and the mountain battery which had been sent to reinforce him, and was thus enabled to advance to a better position, whence the Askaris delivered a spirited counter-attack with the bayonet (11.40 a.m.).

By this time the advance of the Second Reserve was making itself felt, and the enemy fell back into the desert under a terrific artillery fire; at noon, fighting in this quarter had ceased, and III/84 moved to rejoin its division; the cavalry brigade had already been sent to assist the Second Reserve. While the attack of the First Reserve was proceeding the Turco-Arabs had retaken a hill further to the west, on the left of Rainaldi's Brigade; at 12.30 p.m., this position was retaken by two battns. of the 84th and one of the 82nd Regt.

ACTION OF THE SECOND RESERVE.—At about 6 a.m., orders had been sent for General Montuori to move forward along the Fonduk—Tokar road. He advanced with four battns. in the front line, and one battn. (63rd Regt.) and a battery as a reserve in rear of the left. The march was much delayed by the deep sand, but about 9.20 a.m., strong parties of the enemy were encountered moving from the south-east, towards Zanzur. The mountain battery was brought into action, and by its fire compelled a considerable portion of the enemy to turn eastwards to face this new attack. Some sharp fighting ensued, but Montuori pressed on, and succeeded in checking the movement of the enemy towards Gargaresch, where Carpinetto was now engaged in his difficult retirement. At 11.40 a.m., the Turco-Arabs made an endeavour to envelop the exposed (left) flank of the Second Reserve. This movement was, however, met and frustrated by the reserve battn. (63rd), which was in echelon in rear of this flank; at 2.30 p.m., the cavalry brigade arrived from the First Reserve, and was placed in echelon on the left rear of the battn. of the 63rd, where its appearance checked any further attempt at outflanking, thus leaving the Italians the last word in this succession of enveloping and counter-enveloping manœuvres. At 4 p.m., some further Turco-Arab reinforcements came up from the south-east, but retreated on finding themselves outflanked by General Montuori's Brigade.¹

Assuming the general accuracy of the above account, the chief points of interest are: (1) the skilful dispositions made by the Italians to guard against a counter attack from the left; and (2) the fact that the counter attack succeeded, for a while, in penetrating between the First Reserve and the left rear of the 1st Division. These are points which should repay closer investigations when more detailed narratives are available.

All the troops were then withdrawn to their camps, except Giardina's Brigade, which was left in occupation of the captured position at Sidi Abdul Galil.

The Italian losses were one officer, 28 rank and file and 10 Askaris killed; 13 officers, 203 rank and file and 75 Askaris wounded. The enemy's losses included 1,130 dead whose bodies were left on the field, while numbers of dead and wounded are said to have been carried away.

¹ Some fighting appears to have taken place on this occasion, but the accounts are conflicting, and no details are therefore given.

NAVAL NOTES.

HOME.

The following are the principal appointments which have been made:—Rear-Admiral—C. F. Thursby, C.M.G., to be Rear-Admiral in the Atlantic Fleet. Captains—C. F. Lambert to "Blenheim," as Commodore 2nd class in command of Destroyer Flotillas of First Fleet; O. De B. Brock to "Princess Royal"; Hon. V. A. Stanley, M.V.O., to "Pomone" and for command of Royal Naval College, Dartmouth; E. M. Phillpotts to be Assistant to Second Sea Lord; F. L. Field to "Victory," for charge of Signal School at Portsmouth and for duty as Superintendent of Signal Schools; S. R. Drury-Lowe to "Chatham"; J. D. Dick to be Assistant Director of Naval Ordnance; M. F. Sueter for service at Admiralty in connection with the new Air Department; E. S. Alexander-Sinclair, M.V.O., to "Victory," as flag-captain (temp.) to Admiral Sir H. Meux, K.C.B., K.C.V.O.; R. Y. Tyrwhitt to "Bellona" and command of Second Destroyer Flotilla; E. S. Carey to "Boadicea" and command of Third Destroyer Flotilla; R. A. Nugent to "Minerva" and command of Sixth Destroyer Flotilla; W. H. D'Oyley to "Carnarvon"; A. N. Loxley to "Vernon" for special service; John Luce to "Glasgow"; W. E. Goodenough, M.V.O., to "Colossus"; W. G. E. Ruck-Keene, M.V.O., to "Cochrane"; H. Lynes to "Enchantress"; C. I. Prowse to "Suffolk"; C. L. Vaughan-Lee to "Bellerophon"; J. D'Arcy to "Leander"; R. Hyde, M.V.O., to "Talbot"; M. L. E. Silver to "Melbourne"; H. L. D'E. Skipwith to "Blake"; E. K. Loring to "Hibernia," and as flag-captain; Hon. H. Brand, M.V.O., to be Naval Attaché at Tokyo.

Flotilla Cruisers.

FIGHTING EFFICIENCY TO BE INCREASED.

Instructions have been given for the flotilla-cruisers "Adventure," "Attentive," "Foresight," "Patrol," "Pathfinder," "Sentinel," "Forward," and "Skirmisher," which were armed with ten 12-pounder Q.F. guns when completed in 1905, to be re-armed with four-inch Q.F. guns. The alterations will materially increase the fighting efficiency of these vessels, as the armament of torpedo craft to-day is much heavier than it was when they were built. These cruisers were originally known as 25-knot scouts, and their designation was altered to flotilla-cruisers at the recent reorganization. At present the cruisers are serving as follows:—With the First Fleet: "Pathfinder" (First Flotilla), "Attentive" (Second), and "Patrol" (Third); Second Fleet: "Foresight" (Fifth), "Sentinel," and "Skirmisher" (Sixth), "Adventure" (Seventh), and "Forward" (Eighth Flotilla).

New Floating Dock.

The new floating dock built by Messrs. Cammell, Laird & Co., of Birkenhead, for the use of the Admiralty at Portsmouth, was successfully launched, or rather floated out from a specially designed building basin on the 14th ult. According to the *Times* the area of the dock is two-and-a-quarter acres, and the overall dimensions 650 feet long and 144 feet wide; the clear width at the top of the side towers is 113 feet. The side towers are 66 feet high from the bottom of the pontoon. The total displacement of the dock when submerged to receive a ship having a draught of 36 feet is 49,000 tons. Complete control of the dock is arranged in the valve house. The structure is equipped with a service of telephones, flying gangways and travelling cranes, and has taken about two years to build, delay having been caused by the engineers' strike. The dock was towed round to Portsmouth in six days, but owing to the strength of the wind on her arrival she could not be taken into the harbour, so was forced to spend another night in the Channel, but was successfully brought in on the following day.

The Naval Manœuvres.

The Naval manœuvres which began on the 10th July concluded the same week. The general result would appear to have been that, aided by fog, the "Red" Fleet, commanded by Admiral Sir George Callaghan, Commander-in-Chief of the Home Fleets, although inferior numerically and in gun-power to the "Blue" Fleet, under Admiral Prince Louis of Battenberg, was able to go a long way in achieving his object. The following resumé is taken from the *Standard* :—

The object of the "Reds" was to convoy an invading army and effect a landing at some port on the East coast; the mission of the "Blue" admiral was to seek the enemy and prevent his either landing or sending a portion of his force into the Atlantic to play havoc with commerce on the trade routes. "Blue," in spite of his one-third superior force, was unable to accomplish fully both these purposes, and in the end Admiral Callaghan, when compelled to fight the deciding battle off Filey, delayed the stronger fleet so long by sacrificing the Seventh Battle Squadron—all old ships—that he was able to get clear with his main fleet and transports, show a clean pair of heels to his pursuers, and return to his base to prepare for a fight another day.

"Blue" at the outset was uncertain whether the enemy would make a dash for the Atlantic, and from his bases at South Queensferry, Cromarty, Lamlash, and Oban, had to "feel" for the opposing fleet. The vessels on the East coast were accordingly sent cruising south, while the west coast division patrolled the Atlantic side, interrogating merchant vessels as they passed for information. "Red," however, at first concentrated his force in the North Sea, and remained undiscovered from the start of operations on Saturday (13th) until Sunday (14th). The attacking fleet then lay off Filey, the battle squadron in compact lines with cruisers, scouts, and torpedo craft scouring the seas to ascertain if the "Blue" defenders were on the scent. The unexpected happened in the shape of a fog, and, feeling the coast to be dangerous and a surprise attack possible, the landing plans were postponed for a time and the "Reds" steered northwards, the cruisers spread out as a screen to the remainder of the fleet.

COMMERCE-RAVAGERS ESCAPE.

On Monday the "Blue" cruisers found the approaching enemy, and "Red," closing in his cruisers in battle formation, accepted the challenge to engage. The afternoon saw the cruiser action in full progress, and in the result "Red" claimed the advantage, three cruisers managing to dash through unscathed and reach the Atlantic trade routes. Fog again closed the encounter, and under its cover "Red" again escaped, not to be sighted again until Thursday. Then "Blue" got scent of the attacking force's intentions and whereabouts, and the "Lion" and "Indefatigable," battle cruisers, rushed south at top speed, followed by Prince Louis' main squadrons, to find the "Red" enemy in strength off Filey. Admiral Callaghan had been there undisturbed, it would seem, for some hours, quite long enough to land a considerable invading force, and his fleet continued to act as a screen to the transports when "Blue" approached. The latter consisted of the Second, Third, Fourth, and Fifth Battle Squadrons of the Home Fleet, and seeing that the landing could not be proceeded with without interruption, and recognizing that the approaching force was superior, Admiral Callaghan resolved to retire. The "Blues" went in hot pursuit, headed by the speedy "Lion" and "Indefatigable," but the "Red" commander tried a desperate move—and it succeeded. While his main fleet was scurrying off at top speed the old Seventh Battle Squadron—comparatively slow and heavy "Majestics"—were detached from the line and formed up in line of battle to hold the pursuing squadrons in check. The screening squadron was sacrificed, for at the end of the sharp and fierce conflict every vessel was ruled out of action, but the main "Red" fleet was saved, and when "Blue" resumed the pursuit, after having cleared away the obstruction, Admiral Callaghan was quite out of reach and beyond danger. "Blue's" total losses were two armoured cruisers and a couple of dozen smaller craft as the result of the engagement; but "Red," despite the loss of six battleships and two armoured cruisers, besides several torpedo craft and submarines, was still at large and in touch with his base when, two hours after the battle, the order came from the Admiralty that the operations were at an end.

Result of Gunlayers' Test with Light Quick-firing Guns, 1911.

The result of the test of the gunlayers with light Q.F. guns was recently published. It is prefaced by an abstract of the firing for the last six years, from which it is seen that the percentage of hits to rounds fired was: In 1906, 34.53; in 1907, 42.08; in 1908, 47.28; in 1909, 50.13; in 1910, 45.19; and in 1911, 42.84. With the 12-pounder, the heaviest used in the practice, the China Squadron, for the fifth time running, heads the list in order of merit, the flagship "Minotaur" being again the best ship in the Squadron, and in the Navy, 13.23 hits per minute being made by her gunners. The Second Division of the Home Fleet and Second Cruiser Squadron stand second, with the "Shannon" as best ship; and the Australian Squadron, third, with the "Powerful" as best ship.

With the lighter guns, the 6-pounder and 3-pounder, the China Squadron also heads the list, with the "Monmouth" as best ship, the Australian Squadron coming second, and the Special Service Tenders, third;

the "Sapphire," belonging to the Third Division of the Home Fleet, for the second year running, being the best ship in the Squadron and in the Navy, with 9.56 hits per minute to her credit. Classified in order of merit of ships competing, the "Minotaur" is again first ship, with Corporal T. W. White, R.M.A., as best shot; the "Shannon" comes next, with Able-Seaman S. Newman as best shot; and the "Powerful" third, with Able-Seaman P. J. Corey as best shot. The number of ships competing was 127.

	1906.	1907.	1908.	1909.	1910.	1911.
Number of ships that fired...	89	122	111	104	110	127
Number of Guns ...	1,421	1,898	1,384	1,407	1,531	1,149
Number of Hits { Direct ...	4,666	7,462	6,120	7,157	3,483	2,551
{ Ricochet ...	—	—	—	—	283	244
Number of Misses ...	8,845	10,272	6,823	7,119	4,254	3,331
Percentage of Hits to Rounds fired... ..	34.53	42.08	47.28	50.13	45.19	42.84*†
Hits per gun per Minute:—						
12-pounders... ..	3.417	4.471	5.319	6.005	5.454	5.253*
6 and 3-pounders (except Vickers)	3.358	3.640	4.507	4.191	3.651	3.820*
3-pounders, Vickers	8.144	6.140	6.069	7.810	6.127	5.642*

* Ricochet hits counting three-tenths of a hit.

† The figures for 1911 counting ricochet hits as a whole hit would be 45.63.

12-POUNDER GUNS.

ABSTRACT, 1911.

Order of Merit.	Fleet or Squadron.	No. of Ships.	No. of Men Firing	Hits per Minute.	Best Ship in Fleet.	Hits per Minute.
1	China	3	32	9.403	Minotaur ...	13.23
2	Home Fleet, 2nd Division and Second Cruiser Squadron	9	118	6.475	<i>Shannon</i> ...	11.59
3	Australia	2	24	5.505	<i>Powerful</i> ...	6.48
4	Home Fleet, 1st Division and First Cruiser Squadron	3	50	5.490	<i>Patrol</i> ...	7.58
5	Home Fleet, 3rd Division and Cruisers	21	270	5.308	<i>Sentinel</i> ...	10.08
6	Mediterranean and Sixth Cruiser Squadron	12	125	5.250	<i>Exmouth</i> ...	8.05
7	Atlantic and Fifth Cruiser Squadron	9	124	4.581	<i>Doris</i> ...	7.55
8	Cape of Good Hope ...	1	8	3.861	<i>Hermes</i> ...	3.86
9	Fourth Cruiser Squadron	4	39	3.615	<i>Essex</i> ...	4.83
10	Special Service Tenders	6	38	3.580	<i>Cumberland</i>	5.14
11	East Indies	1	8	3.503	<i>Highflyer</i> ...	3.50
	Total, 1911 Test ...	71	836	5.253†		
	Total, 1910 Test ...	68	862	5.454		

† Ricochet hits counting three-tenths of a hit.

6 AND 3-POUNDER GUNS (EXCEPT 3-POUNDER Q.F. VICKERS).

ABSTRACT, 1911.

Order of Merit.	Fleet or Squadron.	No. of Ships.	No. of Men Firing	Hits per Minute.	Best Ship in Fleet.	Hits per Minute.
1	China	4	25	5.422	<i>Monmouth</i> ...	9.11
2	Australia	4	38	4.355	<i>Pioneer</i> ...	5.60
3	Special Service Tenders	8	31	3.985	<i>Shearwater</i> ...	8.41
4	Home Fleet, Third Division and Cruisers ...	19	98	3.940	<i>Sapphire</i> ...	9.56
5	Mediterranean	13	60	3.892	<i>Russell</i> ...	7.88
6	Home Fleet, Second Division and Second Cruiser Squadron ...	2	16	3.205	<i>Attentive</i> ...	3.71
7	Home Fleet, First Division and First Cruiser Squadron ...	1	8	2.028	<i>Patrol</i> ...	2.03
8	Cape of Good Hope ...	2	16	1.865	<i>Fort</i> ...	3.48
9	Fourth Cruiser Squadron	3	21	1.776	<i>Essex</i> ...	2.67
	Total, 1911... ..	56	313	3.820*		
	Total, 1910... ..	56	334	3.651		

* Ricochet hits counting three-tenths of a hit.

Result of Gunlayers' Test from Torpedo Boat Destroyers, 1911.

The tabular statement shows that 190 vessels fired for the test, with 823 guns; that 1,818 direct hits and 153 ricochets were made, the number of misses being 2,457. The percentage of hits to rounds was 42.09, the best firing being with the 12-pounder, 12 cwt. on P. V. and P. VI. mountings, and the next best with 6-pounders fitted with telescopes. With the first-named gun the "Redpole" heads the list, the best marksman being Able-Seaman W. Tepps; with the same gun on P. I. mountings the "Falcon" comes first of the 154 vessels so fitted, Able-Seaman R. Groundsell being best shot; with the 12-pounder 8-cwt. guns, the "Ure" was first, Able-Seaman W. Tubb being best shot. With the 6-pounder guns fitted with telescopic sights, the "Bullfinch" has the highest average hits per minute, Able-Seaman H. Millington being best shot.

RESULT OF GUNLAYERS' TEST FROM TORPEDO BOAT DESTROYERS OF HIS MAJESTY'S FLEET, 1911.

Number of ships that fired	...	...	...	...	...	...	190
Number of guns	...	...	...	...	...	...	823
Number of hits	Direct	...	...	...	...	...	1,818
	Ricochets	...	...	...	...	...	153
Number of misses	...	...	...	...	...	...	2,457
Percentage of hits to rounds fired	...	...	...	...	...	...	42.09
	4-inch B.L.	...	...	...	...	...	2.56
	12-pr. 12-cwt.	...	...	...	...	...	3.51
Hits per gun per minute	12-pr. 8-cwt.	...	...	...	...	...	3.64
	6-pr.	...	...	...	...	...	6.48

Nature of Gun.	No. of Guns.	Rounds.	Hits.		Misses	Per Minute.		Percentage of Hits to Rounds Fired.
			Direct.	Ricochet		Rounds.	Hits.	
4-inch B.L.	63	304	101	13	190	7.42	2.56	34.51
12-pr. 12-cwt. on P. V. and P. VI. mountings	69	388	195	16	177	10.57	5.56	51.49
12-pr. on P. I. mountings	219	1,095	353	31	711	8.87	3.13	33.09
12-pr. 8-cwt.	102	557	196	25	336	9.83	3.64	36.54
6-pr. with telescopes ...	355	2,001	959	66	976	13.31	6.67	48.92
6-pr. without telescopes	15	83	14	2	67	11.40	2.02	17.59
Total	823	4,428	1,818	153	2,457	9.946	4.092	42.093

RESULTS OF FLOTILLAS WITH DIFFERENT NATURES OF GUNS.

Nature of Gun.	Flotilla.	No. of Vessels.	Hits per Minute.	Flotilla.	No. of Vessels.	Hits per Minute.	Flotilla.	No. of Vessels.	Hits per Minute.	Flotilla.	No. of Vessels.	Hits per Minute.
4-in. B.L.	2nd	21	2.82	1st	15	2.20	—	—	—	—	—	—
12-pr. 12-cwt. on P. V. mountings	2nd	21	5.70	1st	8	5.19	—	—	—	—	—	—
12-pr. 12-cwt. on P. I. mountings...	China	6	4.58	5th	26	4.16	2nd	4	4.12	4th	33	3.23
12-pr. 8-cwt.	Medn.	4	4.91	2nd	4	4.21	1st	1	3.67	3rd	25	3.34
6-pr. with telescopes	5th	26	8.15	China	6	6.75	4th	19	6.30	Medn.	9	5.38
6-pr. without telescopes	6th	2	2.13	Medn.	1	1.81	—	—	—	—	—	—

Nature of Gun.	Flotilla.	No. of Vessels.	Hits per Minute.	Flotilla.	No. of Vessels.	Hits per Minute.	Flotilla.	No. of Vessels.	Hits per Minute.	Flotilla.	No. of Vessels.	Hits per Minute.
4-in. B.L.	—	—	—	—	—	—	—	—	—	—	—	—
12-pr. 12-cwt. on P. V. mountings	—	—	—	—	—	—	—	—	—	—	—	—
12-pr. 12-cwt. on P. I. mountings...	3rd	37	2.69	6th	27	2.62	1st	7	2.59	Medn.	14	2.45
12-pr. 8-cwt.	—	—	—	—	—	—	—	—	—	—	—	—
6-pr. with telescopes	6th	11	4.83	—	—	—	—	—	—	—	—	—
6-pr. without telescopes	—	—	—	—	—	—	—	—	—	—	—	—

FRANCE.

The following are the principal appointments which have been made:—
 Commandants de Front de Mer—Rear-Admiral F. A. Journet at Cherbourg, Rear-Admiral C. P. Poidloué at Brest, Capitaine de Vaisseau A. C. Ricquer at Lorient, H. L. Philippe at Rochefort and Rear-Admiral M. G. de Ramey de Sugny at Toulon. Capitaines de Vaisseau—M. L. Delafon to "Danton"; J. G. Jaime to "Lance," and command of the

Calais—Dunkerque torpedo and submarine flotillas; H. Salaün to "Dunois," and command of flotillas of the third squadron; M. F. Grasset to "Jeanne-d'Arc," and command of the School of Application; de La Taste to "Mirabeau"; L. M. Laporte to "Vergniaud"; L. E. Sagot Duvaux to "Diderot"; C. V. Ollivier to "Vérité"; V. M. Rageot de la Touche to "Bouvet"; H. J. Durand to "Jules-Ferry"; A. C. Biard to "Gaulois"; L. A. Mottez to "Suffren" L. A. Viard to "Marseillaise."

New Ships.

The Minister of Marine has decided to lay down four battleships of the "Dreadnought" type during the coming year instead of the two as originally proposed.

A commencement has been made at the Lanester Yard at Lorient with the "Provence," one of the three super-"Dreadnoughts" of this year's programme; she is being built on the same slip on which the "Mirabeau," of 17,000 tons, now one of the ships of the First Squadron, was constructed, and also the "Courbet" of 23,000 tons, now completing. The "Provence," and her two sister-ships, the "Bretagne" and "Lorraine," are an improvement on the four ships of the "Jean Bart" class; instead of twelve 12-inch guns, which those ships are to carry, the new vessels will be armed with ten 13.4-inch guns, which will be mounted in five double turrets on the centre line, the turrets immediately abaft and before the fore and after ones respectively being raised to fire over them. It is reported that their dimensions will now be as follows:—Length, 541 feet; beam, 88.56 feet, with a displacement of 23,500 tons. The secondary armament will consist of 24 six-inch guns, with four torpedo tubes. The engines are to develop 28,000 I.H.P., giving a speed of 20 knots.

Ultra-Violet Rays in Submarines.

At a recent meeting of the Comparative Pathology Society at Paris, M. Daniel Berthelot brought out the fact that ultra-violet rays could be used for purifying the air in submarine boats. Such rays are produced in great quantities by the quartz mercury vapour lamp, and their sterilizing power is now well known. The secret of the great power of the ultra-violet rays is simple, according to him, for they correspond to the highest temperatures that we know. In fact the temperature of the mercury vapour lamp which produces them is even higher than that of the sun. He mentions also an interesting point, that is, if we expose to the rays a mixture of carbonic acid gas and ammonia, they combine and give rise to formic amide, which is the base of protoplasm and living matter.

Scientific American.

Abolition of Sale of Beer.

Because of the inconvenience caused by the sale of beer by the general mess on board ship, and in the land forces, the Minister of Marine has decided to forbid this sale hereafter. The decrease in the gain which resulted for the general mess will be made good in a satisfactory manner by the sale of tea, of milk, and of warm *boissons*, the use of which has been rapidly increasing in many ships. This order will take effect nine months after February 5th, 1912.

Moniteur de la Flotte.

GERMANY.

The following are the principal appointments which have been made:—Rear-Admirals—Koch to command of Second Division of Scouting Squadron; Schmidt to command of Fifth Division of High Seas Fleet; Jacobson to be commandant of Heligoland; Souchon to be second-in-command of II. Squadron; Trummel to be second-in-command of I. Squadron. Kapitän zur See—Wurmbach (Otto) to be Chief of the Staff of the North Sea Station; Hebbinghaus to be Chief of the Staff of the Baltic Station; Behring to "Wittelsbach" von Usslar to "Nassau"; Hollweg (Carl) to "Schlesien"; Seiferling to "Wettin"; Frieher von Keyserlingk to "Lothringen"; Lange to "Posen"; Meurer (Hugo) to "Deutschland"; Hahn to "von der Tann"; Feldt (Constance) to "Preussen"; Thorbecke to "Braunschweig"; Fuchs to "Friedrich der Grosse"; Völken to "Elsass"; Schmalz to be Superintendent of the fitting-out department at Wilhelmshaven.

Presents for Ships of Imperial Navy.

The Association of German Mercantile Travellers has presented the officers' mess of the cruiser "Danzig" with a painting representing symbolically the might of trade.

The handing over of the gift made by the Oldenburg branch of the German Navy League to the battleship "Oldenburg," took place on the 27th June at Kiel. It consisted of a portrait of the Hereditary Duke of Oldenburg for the commanders' mess, an artistic table service for the officers' mess as well as a landscape painting, two Oldenburg landscapes for the warrant officers' mess, and a similar present to the gunroom officers for their mess, while a sum of 10,000 marks was distributed among the petty officers and crew.

The New German Naval Law.¹

According to the New German Naval Law, the strength of the fleet is to be raised from 58 to 61 battleships and battle-cruisers, with 40 protected cruisers instead of 38. The new Law provides for a battle fleet consisting of a flagship and five squadrons of eight battleships each, ten first-class cruisers and 30 protected cruisers. The fleet for service in foreign waters is to be composed of ten first-class cruisers and ten protected cruisers. Three active squadrons and one reserve squadron, together with a flagship, making in all 33 battleships, are to be kept constantly in commission. Two extra armoured cruisers are to be stationed abroad.

An increase in the *personnel* of the Navy up to 1920 requires an annual increase of 75 officers including engineers, surgeons, and paymasters, and 1,600 men. This increase in the *personnel* requires additional expense each year: 1912, about £750,000; 1913, about £1,400,000; 1914, £1,900,000; reaching maximum annually in 1916, about £2,350,000.

THE PERSONNEL OF THE FLEET: THE OFFICERS' CORPS.

The following are the numbers of the officers of different ranks on the Active List of the Fleet: four admirals, 10 vice-admirals, 20 rear-admirals, 92 captains, 219 frigate or corvette-captains, 507 captain-lieutenants, 1,163 lieutenants, 398 midshipmen and 185 naval cadets. There is thus an increase in the present year of one vice-admiral, one rear-admiral, four captains, ten frigate or corvette-captains, 22 captain-lieu-

¹ See also page 1184 of the August number of the JOURNAL.

tenants, and 52 lieutenants. There are further two retired rear-admirals, 14 retired captains, and six retired lieutenants employed on special duties, while 58 captain-lieutenants and 99 lieutenants are employed in ordnance and torpedo duties at the various dockyards and coast stations.

According to the Appendices to the Estimates for 1906 and 1908, there are to be in 1920,	Numbers.	Percentage.	Estimates for 1912	Numbers according	Number demanded
			on the basis of a similar percentage as for 1920.	to Estimates for 1911.	for 1912.
Admirals and Vice-Admirals ...	18	0.7	14	13	1
Rear-Admirals ...	25	1.0	20	19	1
Captains ...	122	4.6	92	88	4
Frigate or Corvette-Captains ...	289	10.9	219	209	10
Captain-Lieutenants ...	667	25.2	507	485	22
Senior Lieutenants ...	922	57.6	1163	1111	52
Lieutenants ...	605				
Total ...	2648	100	2015	1925	90

The staff of the marine battalions is as follows:—

One colonel (Inspector of Marine Infantry, with the rank of regimental commander), two battalion commanders, 11 captains, and 40 first and second lieutenants.

The Marine Field Artillery have two captains, two first-lieutenants, and four lieutenants, and the Pioneer Detachment, one major, two captains, and one first-lieutenant.

The Engineering Department consists of 19 chief-engineers and senior staff-engineers, 88 staff-engineers, 137 senior engineers, and 224 engineers, being an increase of 35 over the number of last year.

The Medical Department consists of one medical director-general (with rank as rear-admiral), five inspector-generals (with rank as captains), 72 senior staff-surgeons, 97 staff-surgeons, and 123 surgeons and assistant-surgeons, being an increase of 13 over the number of last year.

In the Accountant Department are 49 staff-paymasters and 185 senior paymasters and paymasters, being an increase of nine over last year.

SEAMEN, STOKERS, ETC.

The Seamen's, Boys', Dockyard and Torpedo Divisions number as follows:—

- 734 Chief warrant officers;
- 1,383 Warrant officers;
- 8 Bandmasters;
- 236 Chief petty officers;
- 4,279 First-class petty officers;
- 6,419 Second-class petty officers;
- 9,473 Leading seamen;
- 28,419 Seamen and stokers;
- 96 Boys' petty officers;
- 1,554 Boys.

These are distributed among the different Divisions in accordance with the following table:—

	Chief Warrant Officers.	Warrant Officers.	Bandmasters.	Chief Petty Officers.	1st Class Petty Officers.	2nd Class Petty Officers.	Leading Seamen.	Seamen.	Petty Officers for Boys.	Boys.	Total.
Seamen's Divisions	171	257	8	128	1,441	2,162	4,520	13,618	—	—	22,305
Boys' Division ...	—	—	—	—	—	—	—	—	96	1,554	1,650
Dockyard Divisions:											
Engine-room Personnel ...	360	721	—	—	1,524	2,286	2,591	7,772	—	—	15,254
Other Ratings ...	55	108	—	68	446	669	493	1,478	—	—	3,317
Torpedo Divisions:											
Seamen Personnel...	31	62	—	38	223	336	777	2,332	—	—	3,799
Engine-Room Personnel ...	107	215	—	—	573	860	1,001	3,004	—	—	5,760
Submarine Detachment:											
Seamen Personnel...	3	7	—	2	22	32	43	73	—	—	182
Engine Room Personnel ..	7	13	—	—	50	74	48	142	—	—	334
Total 1912 ...	734	1,383	8	236	4,279	6,419	9,473	28,419	96	1,554	52,601
In 1911 ...	699	1,316	8	226	4,048	6,070	8,918	26,756	96	1,554	49,691
Increase 1912...	35	67	—	10	231	349	555	1,663	—	—	2,910

MILITARY NOTES.

BRITISH EMPIRE.

Home.

APPOINTMENT.—The King has been graciously pleased to approve of the appointment of General The Right Honourable Sir Neville Lyttelton, G.C.B., G.C.V.O., to be Governor of the Royal Hospital, Chelsea, in succession to the late Field Marshal Sir George White, V.C., G.C.B., O.M., etc.

SUBSIDY SCHEME FOR MOTOR LORRIES.—Particulars of a new subsidy scheme for motor lorries were issued by the War Office in August. Under the new scheme all petrol-driven lorries are classified as:—

Class "A." Those capable of carrying a useful load of three tons.

Class "B" " " " " " " " " 30 cwt.

The following table shows the total gross weights which may have to be carried by Class A and Class B lorries respectively:—

—	Class A.	Class B.
	tons cwt.	tons cwt.
Useful load	3 0	1 10
Three men on driver's seat at 2 cwt. each ...	0 6	0 6
Kit, spare petrol tins	0 2	0 2
Heaviest body likely to be used	0 19	0 17
Cab	0 3	0 17
Total weight on chassis	4 10	2 15
Gross weight of vehicles should not exceed	7 10	5 0

In order to simplify the control and manipulation of vehicles and to minimize the number of spare parts to be carried, only those lorries which comply with certain specifications laid down in the appendix to the scheme, will be eligible for the subsidy. Vehicles fulfilling these conditions may be subsidized for three years from the date of acceptance. The owner of a subsidized lorry receives a purchase premium and an annual subsidy at the following rates :—

A purchase premium of £50 will be paid in six half-yearly instalments of £8 6s. 8d. each, in arrear, the first instalment to be paid in six months from date of acceptance.

A further purchase premium of £10 will be paid in respect of each of the said motor lorries which is provided with a body of an approved type for the carriage of meat slung from the roof, payable in six half-yearly instalments of £1 13s. 4d. each, in arrear.

An annual subsidy of £20 per motor lorry will be paid half-yearly, in arrear.

The owner of a subsidized motor lorry without a special body will thus receive the sum of £110, spread over a period of three years, provided he conforms to the conditions. These conditions are :—

That the motor lorry must continue to be enrolled; that it must remain the property of the owner; that it must be in the United Kingdom; and that a certificate has been signed by the War Department Inspecting Officer that it has been maintained in a thoroughly serviceable condition and in a satisfactory state of repair.

The War Office has the right to purchase a subsidized lorry whenever any portion of the Army Reserve shall have been called out on permanent service; the price paid will be the then value of the car plus 25 per cent., provided the sum to be paid is in no case greater than the original purchase price and never less than 30 per cent. of such price.

Australia.

CADET TRAINING.—The first annual quota of senior cadets liable for training in the Citizen Forces was allotted to existing units of the Militia on July 1st.

Existing units have been re-numbered and, in the case of light horse and infantry units, have been given territorial titles.

The Lithgow Small Arms Factory was officially opened by the Governor-General on June 9th.

MOBILIZATION COMMITTEE.—Military Orders of July, 1912, provide for the formation of an Advisory Committee on administration questions con-

nected with mobilization, to be composed of: *President*, the Adjutant-General; *Members*, the Quartermaster-General (or representative), and the Director of Military Operations; *Secretary*, the Director of Personnel. The Committee is to meet as often as necessary for the revision of Standing Orders for Mobilization, and the Mobilization Orders submitted by commandants, and the consideration of questions arising therefrom.

New Zealand.

In the newly-formed Cabinet, Mr. Allen becomes Minister of Defence, Finance and Education, and Mr. Fisher Minister of Customs and Marine.

SUCCESS OF TRAINING CAMPS.—In a special General Order dated July, 1912, the General Officer Commanding expresses his entire satisfaction with the way in which the first year's training camps, under the new scheme of Universal Training, have been conducted. The results are, he considers, most creditable to the way in which the officers and N.C.O.'s of the Permanent Staff have conducted the registration, the posting, the preliminary arrangements for and the instruction at the camps, while the percentage of attendance must be a source of gratification to all. Great credit is also given to the valuable assistance afforded by the Territorial officers and old Volunteers.

CADETS OF THE DOMINION.—In the same special General Order as above the following extract from a letter, written by Lieut.-General Sir R. Baden-Powell, to the General Commanding, is published for information:—

"Thanks to the arrangements so kindly made for me, I have been able to visit 11 centres, and to see some 11,000 cadets during my week's visit to New Zealand.

"I was greatly struck with the good physical appearance of the cadets, especially among some of the senior cadets from certain high schools.

"Both classes of cadets made a smart turnout on parade, and the senior cadets looked very well equipped in their active-service kit, especially where they had taken to the shorts as worn by the regular troops in India.

"The marching-past was satisfactorily done, but I wish I had had time to see the companies in the more practical test of field-work, where their officers and N.C.O.'s would have the chance of showing their individual capacity for commanding their units.

"The discipline was not in all companies up to the best standard. I noticed several companies that were excellent, and could not well have been better, but in others there was slackness. No doubt in these the cadets were only recruits and knew no better, but each cadet should correct the recruits near him in the ranks—by his example make them remember that they are now in the service of His Majesty the King, that they are not boys playing at childish games, but are young men doing serious work for their country.

"I am convinced from what I have seen that if the senior cadets act up to this they are going to make a really fine and efficient Defence Force in the near future."

South Africa.

APPOINTMENT.—The King has been graciously pleased to appoint the Right Honourable Louis Botha, Premier of the Union of South Africa, to be an Honorary General in the British Army.

SOUTH AFRICAN MILITARY SCHOOL.—A Military School, under the superintendence of Brigadier-General Aston, C.B., R.M.A., was opened on July 1st at Bloemfontein for the instruction of future district officers and adjutants under the new Defence Act, which comes into operation on January 1st, 1913.

The course will last for six months. The class is composed of about 40 South African officers, some of whom belong to the Cape Mounted Rifles. About 50 per cent. of the officers are Dutch-speaking, and all have had war service.

During July, instruction in musketry will be given at the Imperial School of Musketry, Tempe.

Afghanistan.

AFGHAN TROOPS.—It is reported in the Press that the number of Afghan troops on the Herat border has been increased, probably on account of the despatch of Russian troops to Meshed.

THE RISING IN KHOST.—The rebellion in Khost has come to a pacific conclusion since the recall of the Afghan governor. Negotiations between the Afghan Government and the tribesmen have been in progress.

ABYSSINIA.

SMALL-ARM FACTORY.—The Abyssinian Government is now completing the erection of a cartridge factory, driven by a hydro-electric installation, which also serves for the lighting and supply power to Adis Ababa, the capital. The cartridge machinery, purchased in Germany, is capable of turning out ten million cartridges per annum, and will manufacture principally Gras, Mauser, and Lee-Netford cartridges, although any other type for which there may be a sufficient demand will also be made. The buildings are now finished and ready for the machinery, which may now have arrived. The factory also contains a rifle repairing plant capable of dealing with 15,000 to 20,000 rifles per annum, for which the necessary mechanics are now on the way from England. The hydro-electric machinery, supplied by a Manchester firm, is being installed on the Akaki river, about 19 miles from the capital, and consists of two sets of 200 h.p. The power is transmitted to the capital at 6,000 volts, and there transformed down for power and lighting purposes.

ARGENTINE REPUBLIC.

ATTACHMENT OF OFFICERS.—Eleven officers (four captains and seven first lieutenants) are to be attached to the German Army for two years with units of their own arm of the service. Prior to their departure they will have to pass an examination in both French and German.

SIKH EMIGRANTS.—During the current year about 200 Sikhs have arrived at intervals at Buenos Ayres from the Punjab. They apparently expected to find an English speaking country, in which they would receive high wages. They have not, however, been considered desirable immigrants, the wages they have been able to obtain amount to only 3s. 6d. a day, and the few who have obtained employment have only done so through the personal efforts of the Legation staff. These men cannot compete with Italian labour, and the majority are now anxious to return to India.

BELGIUM.

CHANGES IN COMMANDS.—The following changes in the more important commands have taken place:—

Lieut.-General Jungbluth, Chief of the General Staff, has been retired for age, and has been succeeded by his second-in-command, Major-General Dufour. Lieut.-General Cuvelier has retired, and has been succeeded as commander of the 4th Division by Lieut.-General Bonhome, who in his turn has been succeeded in the command of the 2nd Division by Lieut.-General Lantannois. Lieut.-General van der Stegen has retired, and has been succeeded in the command of the 1st Cavalry Division by Major-General Du Chastel.

BULGARIA.

ARMY ESTIMATES.—The Army Estimates for 1912 show an increase of nearly £35,000 on those for 1911, and represent 21 per cent. of the total national expenditure. Additions to the peace establishments of officers and men, and the purchase of 1,000 horses, are the principal causes of this increase.

STAFF COLLEGE.—The Sobranje has passed a law authorizing the creation of a Staff College. Entrance to the college is determined by a competitive examination for candidates having at least four years' service, and not less than eight years, half of which must have been spent with troops.

The course lasts three years. On leaving the Staff College two years' regimental service with their units are obligatory for all officers; during the summer months officers are attached to units of other arms. Before promotion to major, one year's regimental service has to be put in as wing commander, and finally before promotion to the higher ranks, every Staff officer must have served for two years as a regimental commander.

MILITARY ATTACHÉ.—A military attaché of the rank of major has recently been appointed to Rome. Great Britain is now the only great Power which has no military attaché in Bulgaria.

FINANCE AND COMMERCE.—The Bulgarian Government has negotiated a loan of £7,200,000 from the Bank of France.

Steps are being taken to establish consulates in the more important German Towns. Hamburg is to have a Consul-General at once, and subsequently honorary Consuls will be appointed in Berlin, Leipzig, and Frankfort, etc. Energetic efforts are being made to create a fleet of steam ships for the Danube trade. These efforts are receiving Government support, and the Minister for Railways has announced that the Government is prepared to guarantee six per cent. of the original capital invested.

CHILE.

FORTIFICATIONS.—The fortifications of Morro Rock at Arica are now nearly completed, and the guns are in position.

CENSUS.—The recent census of Chile showed that amongst a population of 3,249,079 there were 139,524 foreigners, who were principally made up as follows:—Spanish, 21,968; Italians, 18,755; Germans, 13,023; British, 10,724; French, 9,745.

CUBA.

NEGRO RISING.—Estenoz, the organizer and leader of the negroes in the Cuban rebellion, was killed in action with the regular forces on 27th June. At the end of July skirmishes continued, and the rising was not yet quelled, but around Guantanamo and Havana all was quiet, and there was no immediate danger to white people or to their property.

Seven hundred United States troops were remaining for the present at Guantanamo. The two United States men-of-war sent to Havana were recalled from there on July 1st.

During the rising, the United States Navy was ordered to extend to British subjects the same protection that was available for the lives and property of American citizens.

CHINA.*Events in July.*

GENERAL SITUATION.—No further outbreaks occurred among the troops during July, but the situation still presents most disquieting features, and in well informed quarters in China a pessimistic view is taken of the state of affairs. Many predict a counter-revolution at an early date, with a view to the restoration of the Monarchy.

The attempt made upon the life of the new Governor of Hong Kong upon the occasion of his official entry into the island appears to have possessed no political significance. The outrage seems to have been inspired by private animosity; and Chinese holding high positions in Hong Kong have combined in dissociating themselves from any feelings of ill-will towards the British. The Governor's assailant was sentenced to imprisonment for life with hard labour.

REBELLION ON THE TIBETAN FRONTIER.—The *Morning Post* of the 12th July reported that the tribes westward of the Yalung River, on the Ssu-ch'uan—Tibet frontier had risen in rebellion. On the 15th and 16th June they captured Batang and Litang on the Ch'êng-Tu—Lhasa road. Litang, it is reported, has since been retaken. Reports from Ch'êng-Tu state that a Chinese punitive expedition, numbering 700 men including followers, started from Ch'êng-Tu on the 16th June. Other portions of the force were to have left on the 25th June and the 3rd July. The total strength of the expedition was, it is said, to amount to some 8,000 men, of whom about ten per cent. were to be non-combatants.

KASHGARIA.—The *Times* of the 15th July reported that 100 Russian subjects had been killed in Kashgaria, and that the Russian Minister in Peking had made a demand for compensation and the punishment of the offenders. In reply the Chinese Foreign Minister declared that he had heard nothing of the occurrence, but that he would cause enquiries to be instituted. The Russian Press calls upon the Russian Government to occupy immediately Kashgaria, in order to safeguard Russian subjects.

NEW PREMIER.—Lu Chêng-hsiang has been confirmed in the appointment of Premier in place of Tang Shao-yi, who resigned. The appointment was well received both amongst Chinese and foreigners.

CULTIVATION OF OPIUM.—Remarkable evidence of the resumption of opium cultivation in the various provinces of China comes from Yunnan, where a decrease of 75 per cent. was recently reported, but in which this year's crop is estimated to be equivalent to four-fifths of the production before the inauguration of the suppression policy.

FRANCE.

BUDGET.—Supplementary credits for 1912 to the amount of £1,616,700 have been granted, of which £290,000 is for the Army, and £573,200 for the Navy.

LOI DES CADRES.—Considerable disappointment has been caused by the failure of Parliament to pass the *loi des cadres* for infantry and cavalry before the recess, but the War Minister hopes that the laws may be passed early next session.

MESSING.—A decree has been signed re-establishing a common mess for all unmarried officers, from lieutenants downwards. Two years ago a decree was passed doing away with the custom of officers messing together, but this did not answer and led to the formation of "cliques" amongst the officers of a regiment, according to their financial means and social status.

APPELLATIONS.—The decree of 11th February, 1911, has been annulled, and the old method of addressing officers has been introduced, *viz.*, combatant officers only are addressed by their rank, *e.g.*, as *mon commandant*"; officers of "*les services*" are addressed according to their function, *e.g.*, a veterinary-major would be addressed as "*Monsieur le vétérinaire*."

INSPECTION OF SCHOOLS.—The permanent inspection of military schools has been abolished. All schools are now put directly under the *sous chef* of the 2nd group of bureaux of the General Staff, and each year special general officers will be appointed by the Minister to inspect and report on the various schools.

ENGINEER AND ARTILLERY SCHOOLS.—Up till now the Application School at Fontainebleau has received both artillery and engineer officers from the *Ecole Polytechnique*, while the *Ecole Militaire de l'Artillerie et du Génie* has been the place of instruction for *sous officiers* of artillery and engineers. A new decree devotes the establishment at Fontainebleau to officers and *sous officiers* of artillery and the *Ecole Militaire* at Versailles to officers and *sous officiers* of engineers.

NEW UNIFORMS.—The new uniforms designed by M. Detaille were seen at the review on July 14th. Coloured illustrations of these uniforms appeared in the *Graphic* of 13th July. They do not seem to be an improvement on the old uniforms, at any rate, in so far as invisibility is concerned.

French Colonies.

MADAGASCAR.—The Senate has passed the Bill for the annexation of the islands of Anjouan, Moheli and Great Comoro, 350 miles north-west of Madagascar.

ALGERIA.—The survey party, under Captain Nieger, which left Algiers in January last, and is prospecting for the proposed railway from Algiers to Stanleyville, has reached Agades, having crossed the Sahara Desert from north to south.

WEST AFRICA.—A detachment, escorting a caravan from the east of Timbuctoo to Taoudeni, was attacked by hostile natives raiding from the north on 23rd May last. After fighting on the afternoon of the 23rd and the morning of the 24th May, the raiders were driven off and lost severely, but the French force, consisting of about 100 men, had a French lieutenant and another white man killed.

GUADALOUPE.—The bad financial conditions which have for the last two years prevailed in Guadeloupe show distinct signs of amelioration. At the end of the financial year 1911, a considerable debt had been incurred, but thanks to improved conditions of trade and a carefully restrained expenditure, it seems probable that the end of 1912 will see the colony in a sound financial position again.

GERMANY.

IMPERIAL FINANCE.—The surplus for 1911 referred to in the July Military Notes (page 1051), should read £12,248,949, and not as stated previously. Army expenditure exceeded the estimate by £189,882, whereas naval expenditure was less by £56,000 than the estimate.

ARMY OFFICERS AT NAVAL MANŒUVRES.—A feature of this year's naval manœuvres is to be the attendance of a number of military officers of high rank. The officers detailed in the orders of the 5th August, are: Field Marshal von der Goltz, Inspector-General of the 6th Army Inspection; General von Moltke, Chief of the General Staff; General von Heeringen, Minister of War; General von Bülow, commanding the IIIrd Army Corps; General Sixt von Armin, commanding the IVth Army Corps; General von Kirchbach, commanding the XIXth Army Corps; General von Gallwitz, Inspector of Field Artillery; and General Mudra, Chief of the Engineer and Pioneer Corps, Inspector-General of Fortresses.

MILITARY SERVICE FOR GERMANS RESIDENT ABROAD.—German official representatives abroad have been instructed to make special efforts to encourage the return of young men who have reached the age for military service. Those without means are to receive financial assistance towards defraying the costs of the journey home, and if found unfit on reaching Germany will be given their return fare.

STRATEGIC RAILWAYS.—The new railway (double line) from Remagen, on the Rhine, to Weismes, near the Belgian frontier, was opened for traffic on July 1st.

TRAINING OF RESERVISTS.—The system of training reservists in larger formations than has hitherto been the general custom is receiving increased attention this year. In several army corps, regiments and brigades are being formed entirely of reservists, for training purposes. The former method was to train them by attachment to the battalions of the standing Army.

German Colonies.

COLONIAL MEDAL.—The Emperor has authorized the issue of a medal for all those who have taken part in military operations in German colonies.

GERMAN S.W. AFRICA: *Railways*.—It is stated that there is no possibility that the projected line from Windhuk to Gobabis will be commenced before 1915.

Trade.—This colony is the only one which fails to show an increase in combined imports and exports during 1911. The decrease, which amounts to £260,000, is ascribed to a falling off in the export of diamonds, copper, and lead.

GERMAN EAST AFRICA: *Disturbances on Southern Frontier*.—Newspapers report that a native chief, who for some time past has been giving trouble to the Portuguese authorities, has been raiding into German territory, across the Rowuma river. It is also stated that native patrols from Portuguese territory have carried off women and children from the

islands in the river, and that one such patrol has been captured in the act. An energetic policy, both on this frontier and on the Congo Free State frontier, is advocated.

Trade.—Statistics for 1911 show an increase over 1910 in combined exports and imports amounting to £440,000.

Indian Settlers.—A strong prejudice appears to exist against Indian settlers. An Indian merchant named Kamrudin has been expelled by the native Sultan from Ruanda, for making disparaging comparisons between German and British methods of government. Local papers urge that the example of S. Africa should be followed, and the country be cleared of these "undesirable British subjects." Planters, on the other hand, complain of shortage of labour.

Togo: Trade.—Combined exports and imports for 1911 show an increase over 1910 of £10,000. During the 1st quarter of 1912, they show a further comparative improvement.

Financial Development.—The colony has now had a surplus revenue since 1909 (1909, £17,000; 1910, £39,650; 1911, £32,357), and it is suggested in the Press that the time has come for an active policy of railway construction.

CAMEROONS: Boundary Commission.—The Franco-German commission, which has been sitting at Berne, concluded its deliberations on July 19th, and arrangements for the delimitation of the boundary on the ground will be commenced. Points over which difficulties may arise are: The ownership of islands in the Congo and Ubangi, lying at the apices of the new German extensions to those rivers, and the position of the existing chartered companies.

Railways.—The opening of the line from Duala to Edea is delayed on account of the bridge over the Sanaga river. There seems no immediate prospect of the line being continued to Njong as projected.

Trade.—Increase of imports and exports during 1911 amounted to £220,000 as compared with 1910.

Climate.—The Sanga *enclave*, the southern projection to the Congo, is reported by the German Colonial Office to be uninhabitable for Europeans. Conditions in the Ubangi *enclave* are somewhat more favourable.

KIAO CHAO: Railways.—From a report recently issued, it appears that the Shantung railway, which connects Kiao Chao with the Tientsin—Pukow line at Tsi-Nan-Pu, had considerable difficulties to contend with during the past year. During 1910 the condition of China had a paralyzing effect on railway traffic, with the result that receipts decreased by over £10,000, whilst expenditure increased by over £5,000, necessitating reductions of $\frac{1}{2}$ per cent. and $2\frac{1}{2}$ per cent. on the ordinary and preference shares. Heavy rains in September of 1911 did much damage to the permanent way. An agreement has been come to with the Tientsin—Pukow line, whereby break of bulk at Tsi-Nan-Pu will be avoided.

The new harbour line on to the mole at Tsing-Tau will be open this month.

Trade.—The general export and import trade of the colony, which remained stagnant in 1910, has increased during 1911 to the extent of £450,000.

Garrison.—The *Hamburger-Nachrichten* states that the 3rd Naval Battalion in Tsingtau is to be augmented from five to seven companies, thus increasing the total strength in the fortress from 2,200 to 2,500 men. The necessary troops were to sail from Bremen on the 10th July.

HOLLAND.

APPOINTMENTS.—Major-General Bruijn, commandant of the "New Holland Water Line," and the Volkerak, will shortly retire. His successor in the command will be Colonel H. L. van Oordt, of the General Staff, Director of the Staff College. He in his turn will be succeeded by Major M. C. van der Hoog, of the General Staff.

COAST DEFENCE.—The Coast Defence Bill is being reintroduced in a modified form. The amount now asked for is £1,000,000, less than one-third of the sum mentioned in the original Bill. A fort is to be built at Flushing, and the works at the Helder and Ijmuiden are to be strengthened. The work is to commence in 1913, and to be completed in four or five years.

COOKING WAGONS.—A large sum will be asked for in the Army Estimates for 1913 for cooking wagons and other supply vehicles.

DUTCH "NATIONAL SERVICE LEAGUE."—At the 7th General Meeting of the League speeches were made approving the New Militia Law, as far as it went, but urging the Government to introduce real universal service. The membership of this League, which is 12 years old, is 12,200, and has only increased by 1,000 in the last two years.

JAPAN.

FINANCE.—Dr. Soeda, President of the Industrial Bank of Japan, one of the principal financial authorities in the Empire, and a prime mover in the introduction of foreign capital into Japan, has gone to Paris to arrange for the establishment of a Franco-Japanese Bank; it is rumoured in this connection that he intends to raise a French loan of some £10,000,000 for railway purposes. Later advices state that the preliminaries for the formation of the Bank are on the point of conclusion.

RUSO-JAPANESE NEGOTIATIONS.—The *Daily Telegraph* correspondent in Peking speaks of the anxiety which rumours regarding the alleged Russo-Japanese agreement have aroused in China. He says that according to forecasts expressed in well informed quarters, Japan will shortly press for the appointment of a Resident-General instead of a Consul-General in Mukden; will demand a reduction of Chinese garrisons in Southern Manchuria; and will claim the right to build feeders for her main line in Southern Manchuria wherever she wishes. The same correspondent declares that the present imbroglio in China must end in foreign intervention which, in order to be efficacious, must be undertaken by Russia and Japan. These two Powers, according to him, are agreed that no loan should be floated or advances made without control sufficient to prevent the money from being spent on undertakings calculated to impair their interests. In other words that a limitation must be imposed upon Chinese armaments.

JAPANESE GARRISON IN KOREA.—The military authorities are said to adhere to their original demand for the raising of two new regular divisions for service in Korea. The present garrison consists of a regular division from Japan which has hitherto been relieved about every two years; of a composite brigade formed of detachments from units serving in Japan; and of a strong force of Military Police. This system is inimical to the prompt mobilization and to the training of the Army, since recruits of units serving in Korea are trained away from these, in Japan. The pre-

vailing financial stringency forms the chief obstacle to the realization of the project, which is said to be strongly supported by Count Terauchi, formerly War Minister, and now Governor-General in Korea.

GARRISON IN NORTH CHINA.—Two battalions, belonging respectively to the 6th and 68th Regiments of the 3rd Division, will relieve two battalions of the 11th Regiment (5th Division), which are to return to their stations in Manchuria.

NEW CAVALRY TRAINING MANUAL.—The principal new features of this publication are :—

- (i) Introduction of a bayonet (the trooper now carries rifle, sword and bayonet).
- (ii) Introduction of route-marching on foot for cavalry.
- (iii) Practice of dismounted assault by cavalry.
- (iv) Abolition of troop training, men going on from "individual" to squadron training.

MECHANICAL TRANSPORT.—According to the *Militär Wochenblatt* the military arsenal at Osaka has completed the manufacture of several motor vehicles intended for the Transport Corps. It is proposed to introduce into Japan the German system of subsidizing owners of motor vehicles; the owners in return undertake the obligation of placing the vehicles at the disposal of the military authorities in time of war.

FIELD SEARCHLIGHTS.—The same paper states that field searchlights, purchased by the Japanese military authorities in Germany, have been allotted to the Telegraph Corps at Nalano. At this place men from all parts of Japan are trained to man them.

MEXICO.

REBELLION.—Orozco's revolutionary effort to upset Madero's Government has failed. After the defeat of his forces at Conejos on 12th May, he retired northwards to Bachimba, where he was again defeated by General Huerta on July 3rd. Orozco then retired to Ciudad Juarez, a frontier town on the Central Railway, opposite El Paso, in Texas, but his followers have split up, and it seems probable that they will degenerate into roaming bands who will live on the country till they are dispersed or killed.

The cessation of military operations in the north will bring with it problems of some difficulty, especially as regards the disbandment of the auxiliary forces used by the Government against the rebels, who are brigands at heart. It is thought that the best of them will be absorbed into the regular army, and that the remainder will be provided for in different ways.

Elsewhere the situation is reassuring, and the great bulk of the people desire peace. The Government and the country have had a narrow escape, and it is considered that the stoppage by the United States of the free importation of arms has been the chief cause of the Government's success.

OTTOMAN EMPIRE.

Events in July.

The month of July was full of change in the political situation in Turkey.

Although the recent elections resulted in the retention of office of Said Pasha's Cabinet, there is little doubt but that these elections were

engineered by the clique of the Union and Progress Committee which had obtained the control of the Government, and consequently the vote of confidence subsequently passed in the Chamber represented in no way the measure of real public opinion.

It is doubtful, however, how far matters would have been brought to a head without some sign from the army, and this was first apparent by the mutiny which took place at Monastir. Though in point of numbers the defections only amounted to some hundreds of men, and though the bulk of those who deserted were Albanians, considerable sympathy was shown in the movement by the military generally, and it was with great difficulty that any body of troops could be safely relied upon to proceed to the disaffected area. It was recognized that dissatisfaction with the Committee was generally prevalent throughout the army, and that it was more or less of a coincidence that the movement first broke out actively in the Albanian section.

The initial stage in the disruption of the Cabinet occurred with the resignation of Mahmud Shevket, the Minister of War, on the 10th July. For some time past his appointments and promotions had shown a tendency to nepotism, and had caused considerable dissatisfaction. Then his position was seriously shaken by the mutiny, and by the fact that immediate disciplinary measures could not be effected.

After a short interval and the appointment of an interim Minister of War, the Cabinet as a whole resigned on the 17th July. The announcements as to the composition of the new Cabinet were variously stated from day to day, but it was clear that the inclusion was desired in some form or another of Kiamil Pasha, as the embodiment of a Constitutional régime, but on the original or moderate "Liberal" lines. Finally on the 22nd July Ghazi Mukhtar Pasha (President of the Senate and former military commander in '77-78 in the Asiatic theatre) was appointed Grand Vizier, with Kiamil as President of the Council, Hilmi (another former "Liberal" Grand Vizier) as Minister of Justice, and Nazim Pasha as Minister of War. Simultaneously the state of Martial Law in Constantinople was abolished, and a decision arrived at to despatch a commission to Albania with a view to the cessation of military operations in that country.

In regard to policy generally, the new Government made the following official pronouncement: "The new Ministry in its programme insists upon the strict application of the Constitution, the execution of the laws of the Empire, and the adoption of all measures deemed necessary to quiet the agitation in the country. It is determined to restore order in the disturbed districts of Albania by the strict application of legal authority. In regard to foreign policy the chief object of the Cabinet will be to maintain and develop friendly relations with all the friendly Powers, and to fulfil loyally all engagements."

ALBANIA.—Reports at the end of July showed the situation as extremely grave in this locality, Prisrend and Prishtina having been captured by the Albanians from the Turkish garrisons holding those places. Prior to this, the insurgents had extended their operations as far east as the Lab valley and north to the Servian frontier, while in the south fighting had broken out at Kroya and in the country round Dibra, Elbassan, and Tirana. The situation in this neighbourhood was also complicated by the presence near Lake Okhrida of the Monastir mutineers.

The additional troops recently drafted into the province were only known at the end of July to consist of three battalions from the V.

(Salonica) Corps, to replace the Ishtip *Redifs* (who had to be disbanded as unwilling to march against the Albanians) and two battalions from the IV. (Adrianople) Corps. This made the field forces operating on the northern zone amount to 42 battalions, 14 batteries and ten squadrons.

In the southern zone there were available in addition to the local troops, the 4th (Rodosto) Division sent from the Gallipoli Peninsula on account of the mutiny incident.

OTHER MILITARY FORCES.—It will be recollected that there are at present three field armies assembled under arms in Turkey: (a) the force in Albania already dealt with; (b) the Smyrna army; and (c) the troops assembled on both sides of the Dardanelles. The presence of these last two armies is due to the possibility of Italian attack.

PERSIA.

COSSACK BRIGADE.—The Persian Government has agreed to a new establishment of the Cossack Brigade at Tabriz. The detachment at Tabriz will number 700, with two Russian officers and four Russian non-commissioned officers.

SALAR-ED-DOWLEH.—Salar-ed-Dowleh is now a fugitive. His chief protectors have made their submission to the Persian Government.

RUSSIA.

THE CHIEF OF THE GENERAL STAFF.—General Jilinski, the Chief of the Russian General Staff, is on a visit to France, and has visited the schools of aviation at Reims and Betheny, and other military establishments.

APPOINTMENTS AND OBITUARY.—General N. P. Zarubaev, commanding the Odessa military district, died suddenly on 25th June, aged 69. He served with distinction in the Russo-Japanese War, was popular with his men, and had the reputation of being one of the most capable of the Russian commanders.

General N. V. Nikitin has been appointed to command the Odessa military district. He is an artillery officer, 64 years of age, and distinguished himself in 1877-78, and also in the siege of Port Arthur.

General A. E. Evert, commanding XIIIth Army Corps, has been appointed to succeed General Nikitin in the command of the Irkutsk military district. He is 55 years of age, and saw service in 1877-78, and in 1904-05.

TRIAL MOBILIZATION IN SIBERIA.—An Imperial Ukaz, dated 24th March, 1912, authorizes a trial mobilization in July of the troops in the Irkutsk, Balagansk, Verkholsensk, and Verkhneudinsk districts. The collection of horses is also to be practised.

HEALTH OF THE ARMY.—The annual statement of the health of the army for 1911 shows that 487 officers and 5,186 men died during the year; 18 per cent. of these officers and seven per cent. of the men died from suicide. The wastage of men unfit for service was 41,817, of whom 15,287 were discharged, and 25,900 were given furlough on account of sickness.

SPAIN.

MELILLA DISTRICT.—Orders have been published in Spanish and Arabic to the effect that the work of constructing roads from Yazanem to Zaio, through Tisafor, and from the Kert positions, were to begin on August 19th,

in the hope of combating the great poverty which threatens the country, consequent on the scanty harvest. All Moors, on whichever bank of the river they may dwell, are encouraged to apply for work on the roads, without fear of punishment for past rebellion. Labourers dwelling on the left bank are free to return without hindrance to their homes.

Trade will be declared free between all points in the occupied territory and the Moorish camp, without other restrictions than those already in force. All trade is likewise declared free between Peñon, Alhucemas, and the frontier camps. It is hoped, therefore, that travelling merchants will resume their ordinary occupations, and friendly intercourse be re-established with those who, so far, have remained outside the territory.¹

SWITZERLAND.

LANDSTURM ORGANIZATION.—A reorganization of the *Landsturm* has recently been carried out. Under the old organization the *Landsturm* was divided into two categories, the "armed" and the "unarmed." The "armed" was composed of time expired *Landwehr* troops, or of men unfit for service in other branches of the army or of volunteers. The "unarmed" consisted of auxiliary troops, such as pioneers, bakers, butchers, drivers, carriers, etc.

The new *Landsturm* consists entirely of troops who have been through the recruits' school of some arm of the service, and the greater part of whom have done the usual repetition courses.

In the event of war, volunteers who have some knowledge of the use of firearms will be put into the *Landsturm*. The rôle of the *Landsturm* in war is to act as frontier guards, and cover the mobilization of the *Elite* and *Landwehr* troops. The distribution of *Landsturm* units in peace has been organized to correspond with this their first and principal duty. The second rôle of the *Landsturm* is to act as line of communication troops.

The cavalry of the *Landsturm* take over the horse depôts; and the train troops, the formation of supply columns on mobilization being ordered.

MOUNTAINEERING FEAT BY SWISS INFANTRY.—An infantry company from one of the St. Maurice Forts ascended to the summit of the "Dent du Midi" (10,695 feet), in full uniform, taking with them some machine-guns. The ascent was accomplished without accident, and fire was opened from the neighbourhood of the summit.

UNITED STATES.

ARMY ORGANIZATION.—The recent report by the General Staff on army organization is now under discussion by the bureau chiefs, and will be submitted by them to Congress in due course.

The report enunciates a general military policy which should serve to direct Congress and the War Department in developing a broad scheme for national defence. Favourable mention is made of the British system of divisional organization, and of the advantages of decentralization. The provision of an army reserve is urged, and it is recommended that service should consist of three years with the Colours and three years in the army reserve.

The report also recommends various changes in the tactical organization of mobile troops, and suggests a suitable composition for a division and for a field army.

¹ *Imparcial*, August 14th.

AERONAUTICAL NOTES.

GREAT BRITAIN.

AEROPLANE TRIALS ON SALISBURY PLAIN.—The military aeroplane trials, which began on the 1st of August on Salisbury Plain, have been much interfered with by the boisterous weather. The Judges' Committee was officially stated to consist of:—

Brigadier-General D. Henderson, C.B., D.S.O., Director of Military Training, War Office; Captain Godfrey M. Paine, M.V.O., Commandant of the Central Flying School; Mr. Mervyn O'Gorman, Superintendent of the Royal Aircraft Factory; Major F. H. Sykes, Officer Commanding Military Wing, Royal Flying Corps (secretary).

The conditions, as announced in the January JOURNAL, page 117, were modified in some respects; Clause three being altered so as to reduce the height to be maintained during one hour from 4,500 feet to 1,500 feet.

An accident occurred during the trials, on the 13th August, resulting in the death of Mr. R. C. Fenwick, who was piloting a Mersey monoplane, a light machine designed by himself and fitted with a 45 h.p. Isaacson engine. According to one eye-witness Mr. Fenwick was diving from a height of 300 feet, and after descending 50 or 100 feet the machine dropped vertically; other accounts state that the aeroplane was struck under one of its wings by an eddy gust of wind, and overturned.

On the 25th August a fatal accident to two airmen was narrowly averted by the skill and coolness of the pilot, Lieutenant Parke, R.N. The following account is summarized from an expert article on the incident in *Flight* of the 31st August:—

Lieutenant Parke, accompanied by Lieutenant Le Breton, R.F.C., as observer, on an Avro biplane, with a 60 h.p. Green engine, was returning from a three hours' qualifying flight, flying virtually up-wind. The speed of the wind was estimated at about 10-15 m.p.h., and the maximum air speed of the aeroplane was about 60 m.p.h.; the machine and engine were in perfect order. The pilot, who was flying at a height of between 600 and 700 feet, desired to alight in front of the sheds, and decided that he had sufficient room for a spiral glide. He closed the throttle, without switching off, which kept the engine just turning, and proceeded to glide round down-wind. Having completed a half spiral he thought the machine was in an unnecessarily steep attitude, and was insufficiently banked for the turn he was making. He therefore elevated and may perhaps also have given a momentary touch to the warp; these two operations being for the purpose of reducing the steepness of the descent and increasing the bank respectively. The machine at once started a spiral nose-dive.

After a short distance, Lieutenant Parke opened the throttle full out in the hope that the propeller might pull the nose up, knowing that the machine was slightly nose-heavy with the throttle closed. The engine responded instantly but failed to produce the desired effect. A little further on the pilot drew the elevator lever hard back against his chest and put the rudder hard over to the left with his foot, so as to turn the machine inwards—the latter being the principle that is accepted as proper in case of incipient side-slip—but without result. The machine was now completely out of control, diving at such a steep angle that it appeared to the spectators as vertical, though it was not actually so. The pilot still kept the rudder about half over to the left. He had moved his right hand from the control wheel in order to steady himself by grasping the body strut, not for support

against the steepness of the descent, but because he felt himself being thrown outwards by the violent spiral movement of the machine. He noticed no particular strain on his legs; this appears due to the fact that the machine was falling as fast as the pilot, who was, therefore, unstable on his seat, until he fastened himself to the framework by the grip of his hand.

Recognizing that the predominant influence was that of the spiral motion, *when about 50 feet from the ground*, he eased off the rudder and finally pushed it hard over to the right. The machine instantly straightened, came at once under control, and alighted in the usual way without any further difficulty.

The lessons drawn by the writer of the article from this instance are: Firstly, *the value of flying high*; the machine fell about 450 feet while more or less out of control and, but for the room available, a disaster would have been unavoidable.

The second point, which the writer arrives at after going into technical arguments, is "to rudder outwards from a spiral dive that *has already acquired a high velocity*."

The trials concluded on the 27th August, and on the 31st the following list of awards was issued by the Army Council on the recommendation of the Judges' Committee:—

A. Prizes open to the world for aeroplanes made in any country:

1st prize (£4,000) to S. F. Cody for Cody Biplane (British) No. 31.
2nd prize (£2,000) to A. Deperdussin for Deperdussin Monoplane (French) No. 26.

B. Prizes open to British subjects for aeroplanes manufactured wholly in the United Kingdom, except for the engines.

1st prize (£1,000) to S. F. Cody for Cody Biplane No. 31.

As no other British aeroplane completed all the tests, the two second prizes will be withheld, but the three third prizes of £500 each are awarded to:—

The British Deperdussin Company (Limited) for Deperdussin Monoplane No. 21; the British and Colonial Aeroplane Company (Limited) for Bristol Monoplane No. 14; the British and Colonial Aeroplane Company (Limited) for Bristol Monoplane No. 15.

The following entrants, whose aeroplanes were submitted to all the tests, will receive £100 in respect of each aeroplane:—

M. Ducrocq for Hanriot Monoplane (French) No. 1; M. Ducrocq for Hanriot Monoplane (French) No. 2; the Aircraft Company (Limited) for Maurice Farman Biplane (French) No. 22; L. Blériot for Blériot Monoplane (French) No. 4; L. Blériot for Blériot Monoplane (French) No. 5; A. V. Roe & Company (Limited) for Avro Biplane (British) No. 7.

MAN-LIFTING KITES.—An award of £5,000 has been made to Mr. Cody for his invention of a man-lifting kite, as a result of arbitration proceedings before the Lords Commissioners of the Admiralty.

HEIGHT RECORD BY THE ARMY BIPLANE.—On the 12th August the R.A.F. biplane "B.E.2," piloted by Mr. G. de Havilland, with Major F. H. Sykes as a passenger, made an ascent of about 9,500 feet. The airmen were, for a time, lost in the clouds. This constitutes a British record for altitude, both with and without a passenger.

NEW BIPLANE.—A new two-seater Breguet biplane, driven by a four-bladed tractor screw, has arrived at Eastchurch from Douai.

EMOLUMENTS OF MEMBERS OF ROYAL FLYING CORPS. *Naval Wing*.—The conditions of pay, pensions, etc., for the Naval Wing of the Royal Flying Corps are officially announced, as follows, taking effect from the 1st April, 1912:—

(1) Officers, warrant officers, and men appointed to serve in the Naval Wing of the Royal Flying Corps to be graded and to receive pay as follows:—

Commanding Officer, Naval Wing, £800 per annum, with quarters, inclusive of all allowances.

	Per day. Ordinary pay.	Per day. Flying pay.
Squadron Commander	25s.	8s.
Flight Commander	17s.	
Flying Officer	12s.	
Warrant Officer	9s.	4s. or 2s.
Chief Petty Officer or Petty Officer	6s.	
First Class Air Mechanic	4s.	
Second Class Air Mechanic	2s.	

(2) The rates of flying pay to be granted to warrant officers and men to be dependent upon their flying proficiency under such conditions as may be laid down.

(3) An allowance of 5s. per day to be paid to the secretary to the Commandant of the Central Flying School.

(4) Officers, warrant officers, and men under tuition at the Central Flying School to receive the pay of their rank or rating together with half the authorized rates of flying pay.

(5) A sum of £75 to be paid to officers who have obtained the certificate of the Royal Aero Club at their own expense, provided their selection for the Royal Flying Corps is approved.

(6) Officers belonging to the First Reserve of the Royal Flying Corps to be paid:—

(a) While fulfilling their proficiency obligation, the pay and allowances of their rank with flying pay for such number of days as may be found necessary, regard being had to weather conditions.

(b) While performing duty with the Flying Corps, either for higher instruction or when called out for duty in peace or war, the Flying Corps pay of their grade, together with flying pay.

(7) Warrant officers and men of the Reserve of the Royal Flying Corps to receive annual retainers as follows:—

(a) If performing quarterly tests, while on the Active

List	£10
Others	£20

(b) If not performing quarterly tests, while on the

Active List	Nil
Others	£10

(8) Officers injured on flying duty or when undergoing a course of instruction at the Central Flying School or the Naval Flying School, or privately with official permission, to be eligible for pensions and gratuities under the conditions laid down in the case of officers wounded in action.

(9) In the event of death occurring within seven years of such injury, pensions to be awarded to the officer's widow and compassionate allowances to his children or other relatives under the conditions applicable to the case of officers killed in action or dying of wounds received in action.

(10) In the cases of men the conditions laid down in the event of their being killed in action or dying of wounds received in action or discharged for wounds received in action to be applicable, subject to the limit of two years being extended to seven years.

(11) The service of officers in the Royal Flying Corps, with the exception of service in the Reserve, to count as service in a ship of war at sea, from the date of the certificate of the Royal Aero Club being obtained.

OPENING OF ROYAL FLYING SCHOOL.—On 17th August the Royal Flying School was officially opened. Seventeen pupils have entered the school. The equipment consists of seven machines, viz., two Avros, two Shorts, one M. Farman, one Bristol, and one Henry Farman.

ARGENTINE REPUBLIC.

AVIATION.—A new section to deal with aviation has been temporarily formed in the secretariat of the Minister of War.

GERMANY.

DIRIGIBLES.—The "Schütte Lanz" is to be fitted with an armoured platform on each side, on which a gun can be mounted. At the end of July she had not yet been taken over by the military authorities, though it was frequently stated in the Press that such was their intention.

The Prussian military authorities have purchased the Siemens-Schuckert airship.

The "P.L.8." (or "P.II." as she will be called) is ready for her trials and will be taken over in due course by the Government.

"Z.III.," which met with an accident on her return in June to Friedrichshafen, has been repaired, and made a successful ascent on the 17th July. On the 20th July she carried out an 18-hour journey to Baden.

The new Zeppelin, "Hansa," for Hamburg, is reported as ready for her trials.

Aviation.

STATIONS ON THE WESTERN FRONTIER.—At Aachen, negotiations are in progress for the purchase of land for a military aviation ground and station. At Halberstadt, an aeroplane factory and flying school have been opened.

NUMBER OF PILOT CERTIFICATES.—According to the Press, 250 certificates had been awarded to German pilots up to the beginning of July, in addition to those awarded to military aviators.

ONE-YEAR VOLUNTEERS AS AVIATORS.—From October 1st, 1912, one-year volunteers who are aviators can, at their own request, carry out their service with an aircraft battalion. After six months' service they can be transferred to a flying troop, in which they can later be promoted as officers of the reserve.

HOLLAND.

PROPOSED PURCHASE OF MATERIAL.—The Commission on Military Aviation has published its report. It recommends, *inter alia*, that a supplementary vote of £15,800 should be passed for the purchase of two aeroplanes, one captive balloon section, one man-lifting kite equipment.

JAPAN.

PARSEVAL AIRSHIP.—According to the German *Militär Wochenblatt*, a commission recently sent to Berlin to purchase a Parseval airship, has returned to Japan. The airship was to reach the Tokorozawa flying ground on the 21st July, and to participate in a competition on the 11th September. The paper states that it has a capacity of 275,454 cubic feet, and engines of 300 h.p.

TRAINING OF OFFICERS.—Five captains of infantry and one of artillery have been selected from amongst the young officers of the General Staff and the Department of Military Education and Training to be instructed in reconnaissance and communication duties from aircraft at Nakano, Tokyo. The course of instruction lasts for three months and commenced on the 1st June, 1912. All the above officers are graduates of the Staff College. According to the Press, five other officers are to be selected for training as aviators from amongst more than 100 applicants serving in units.

It is further stated that two new machines are expected shortly from France.

NORWAY.

PURCHASE OF MATERIAL.—A public subscription for aviation has resulted in funds being handed over to the Minister of Defence which will provide for the purchase of two aeroplanes. One Rumpler monoplane has been purchased, and one officer trained in flying at Berlin.

RUSSIA.

RECONNAISSANCE.—A combined exercise in reconnaissance was carried out recently at Gatchina by the personnel of the officers' Aeronautical, Cavalry, and Electro-technical Schools. The object of the exercise was to test the utility of aircraft, wireless telegraphy, and motor vehicles in conjunction with cavalry. The reconnoitring squadrons on one side were furnished with aeroplanes, a dirigible, pack and wheeled cavalry, wireless telegraph stations, and light and heavy motor vehicles. According to the Press reports, the exercise gave very satisfactory results.

Lieutenant Zakutski was killed at Sevastopol owing to a fall with a Blériot monoplane on 15th July. It is stated that the fall was caused by the breakage of one wing.

NAVAL AND MILITARY CALENDAR.

AUGUST, 1912.

- 1st (Thurs.) Army Aeroplane Trials commence on Salisbury Plain.
- 9th (Fri.) Earthquake in the Dardanelles.
- 13th (Tues.) Mulai Yusef proclaimed Sultan of Morocco on the abdication of Mulai Hafid.
- 15th (Thurs.) Twenty-fifth anniversary of the accession of King Ferdinand of Bulgaria.
- 17th (Sat.) Official opening of the Royal Flying School.
- 18th (Sun.) Eighty-second birthday of his Imperial Majesty Francis Joseph I. Emperor of Austria and King of Hungary.
- 24th (Sat.) Panama Canal Bill signed by President Taft.
- 26th (Mon.) Railway communication with many points on the East Coast of England interrupted by floods.
- 29th (Thurs.) Launch of Second-class cruiser "Sydney", from Messrs. Harland & Wolff's Govan Yard, on Clyde, for Australian Navy.

NOTICES OF BOOKS.

An Historical Sketch of the Predecessors of our Mounted Infantry: Horse Archers, Mounted Arquebusiers, and Dragoons. By Major H. G. Purdon.

In this handy little *brochure* Major Purdon has collected and collated a number of passages from the works of writers, ancient and modern, bearing on his subject, beginning with a quotation from Xenophon, which seems to show that horse-archers were employed by the Greeks of his time as cavalry scouts and advanced guards, and ending with the erudite examples culled from the pages of Oman, Firth, and other modern exponents of mediæval military methods. He cites the example of the legions of Crassus, overwhelmed by the arrows of the Parthian horsemen, in exactly the same fashion as, 2,000 years later, the Zulu and Matabele impis were discomfited and dispersed by the bullets of the mounted Boers. "But the disaster sustained by Crassus," he says, "was only one of many, in which the armies of the West were overwhelmed by the horse-archers of the East." But the Parthian, Turkish, and Tartar bowmen were cavalry soldiers who never descended or condescended to fight on foot; whereas the Mounted Archer or Arquebusier of the West was essentially a foot-soldier, who only used his horse to enable him to keep up with the cavalry or to carry him speedily to the scene of action.

The descendants of the horsemen of Changhiz Khan continued to use the bow, until the annexation of the Crimea by the Russians put an end to their activity and their archery; and during the wars of the 18th century many weird encounters took place between Russian Dragoons, who dismounted to use their muskets, and Tartar horsemen, who discharged their arrows from the saddle. The use of Horse-Archers in European war was, perhaps, due to experience gained in the Crusades, for the first instance of their employment given by our author refers to an engagement in Normandy, in the reign of King Henry Ist. Mounted Archers were generally cross-bowmen, and the cross-bow was occasionally discharged from the saddle; but the English long-bow could not be used on horseback, and English archers only used their ponies as hacks, as described by Sir Walter Scott in the case of Lord Marmion's archer-train. Can the term hackney, or hack, have any connection with the "hackbut," which was the weapon of the Mounted Arquebusier of the English armies of the 16th century? The first chapter of Major Purdon's booklet treats of the Horse-Archer, and gives many details of his pay, equipment, etc.; the second chapter deals in similar fashion with his successor, the Horse-Arquebusier. The invention of the hand-gun for a time paralyzed the shock action of cavalry, and strenuous efforts were made by the tacticians of the time to recover for the cavalry the supremacy which had been wrested from them by the fire-action of the infantry. Major Purdon quotes a passage from Monluc, decrying fire-arms as an invention of the Evil One; an opinion paralleled by Milton's ascription of the invention of artillery to Satanic agency, in *Paradise Lost*. The attempt to substitute fire tactics for shock tactics in the mounted arms, of which the most successful example was seen in the German Schwarz Reiters, did not stand the test of experience, and recourse was had to reinforcing the action of the cavalry by mounted musketeers, who constituted a kind of hybrid force between cavalry and infantry. The tradition of the Mounted Arquebusier survived until late in the

18th century in the two companies of Mousquetaires du Roi in the French King's Maison du Roi, or Household Brigade, the Mousquetaires Gris, and the Mousquetaires Noirs, so called from the colour of their horses. They were trained to fight both on foot and on horseback, and carried a Standard and a Colour; when they paraded as a squadron the Standard was borne on the right of the Colour; when as a battalion the Colour took precedence of the Standard. By the middle of the 16th century the Turkish horsemen had exchanged the bow for the musket, but they adhered to their old system of tactics, and always fired from the saddle. We find in the five corps or regiments of cavalry maintained by the Turks in Egypt, one called the Tufangchis or Musketeers. But when they wanted to transport infantry quickly to the scene of action they mounted their Janissaries *en croupe* behind their Sipahis, and so carried them rapidly to the front to forestall the German or Russian Dragoons. To this day the Persian, Turcoman, Circassian, and Moorish horsemen prefer fire to shock tactics and fire from the saddle, making, as a rule, very bad practice.

English military writers of the 16th century describe the Mounted Arquebusier or musketeer by the term "Shot on horseback," but by the commencement of the 17th century he had assumed the appellation of Dragoon. The most probable derivation of this term is from the fancied resemblance of the Mounted Musketeer to the swift and fire-breathing fabulous monster of legendary lore; however, it appears from passages quoted by Major Purdon that there was a fire-arm called a "Dragon," probably from the muzzle being ornamented with the representation of a dragon's head, a form of decoration often to be seen in old pieces of ordnance; and it is suggested that the title of Dragoon, or Dragoon, like that of Musketeer and Fusilier, might be derived from the piece with which the soldier was armed. The utility of the Dragoon was soon established: when Louis XIV. mounted the French throne his army boasted of one single regiment of Dragoons; at the conclusion of his reign there were 40.

During the 17th and 18th centuries armies were reckoned to consist of Horse, Foot, and Dragoons; the Artillery and Engineers were considered as auxiliary services, like the military train nowadays. The Dragoons were mounted infantry; they were armed and equipped like infantry, carried guidons instead of standards, and drums instead of trumpets; they were the first troops to be armed with firelocks, as the furniture of the matchlock was inconvenient for a mounted man; they were also the first troops to be armed with bayonets, which enabled them to dispense with the pikes which a certain proportion of them at first carried. Major Purdon has given many instances of the advantageous employment of Dragoons, to which the following may be added: The forced march of Pappenheim's Horse and Dragoons from Halle to the battlefield of Lutzen saved the Imperialist Army from defeat; his infantry did not arrive on the field until the next morning. At the second battle of Mohacz, Prince Eugene's regiment of Dragoons dismounted and stormed the Turkish entrenchments, then levelled the parapet, and remounted and rode over it to pursue the flying enemy. On the eve of the battle of Pultowa, Charles XII. sent his Dragoons, under Colonel Creutz, to make a wide *détour* and to fall on the rear of the Russians the next day, but by ill fortune Creutz mistook his way, and never arrived on the field.

The transformation of Dragoons into Cavalry pure and simple took place gradually during the first half of the 18th century, and is easily

accounted for. Armies were in those days changed from a peace to a war footing by raising new regiments on the outbreak of a war. This was comparatively easy with the infantry arm, but it took a long time to form and train cavalry. It was much easier to convert existing regiments of Dragoons into Horse, than to improvise fresh regiments. And this tendency was aided by the natural desire of the Dragoon to attain to the superior *rôle* and the greater prestige of the cavalry arm. Frederick the Great, who declared that the spur was the proper weapon wherewith the horseman should combat the firearm of the foot-soldier, and who sorely needed cavalry to encounter the swarms of Austrian Croats and Russian Cossacks, used his Dragoons entirely as cavalry. The war of the Austrian Succession introduced the use of light infantry and light dragoons into the armies of Europe, and the French Royal Army was furnished with several light corps called "Legions," composed of a squadron of dragoons and a battalion of infantry. Major Purdon's seventh chapter deals with mounted infantry in the American War of Independence, in which he relates the exploits of a similar Legion of American Loyalists, raised and commanded by the dashing partisan leader Colonel Tarleton. This Legion included both cavalry and infantry, like our Indian regiment of Guides; and bodies of mounted infantry were also frequently formed during the war from the soldiers of British regiments of Foot, and rendered good service.

Major Purdon has appended notes on the Russian Dragoons of Peter the Great, and on those of Napoleon. The latter wished to restore the old *rôle* of the Dragoon, and had his thirty regiments of that arm equipped with musket and bayonet and trained to fight on foot as well as on horseback. Each regiment had a *compagnie d'élite*, wearing a bearskin grenadier cap instead of the usual brass helmet. The Dragoons resented this transformation into mounted infantry, and the officers complained that they had to teach their men in the morning that good cavalry, well led, could break any infantry, and in the evening that good infantry, properly handled, need have no fear of any cavalry. These Dragoons did not distinguish themselves in the campaigns in Germany, and were afterwards all sent into Spain, where they rendered good service against the guerilla bands.

One of the mounted corps of the Russian Imperial Guard was a regiment of Dragoon Grenadiers, which had a peculiar equipment, and was trained to fight both on foot and on horseback. The uniform was dark green with crimson facings and plastron, over which white cross-belts were worn, and the sheath of the bayonet was attached to the scabbard of the cavalry sabre. The head-dress was a helmet with a crest of bearskin crossing it transversely from ear to ear.

After the experience of the Turkish War of 1877, all the regiments of the Russian cavalry of the line were converted into Dragoons, and armed with the long rifle and bayonet. The experience of the Boer War seems to have had a similar effect on the authorities at our own War Office, for after that war all our cavalry regiments were armed with the rifle. But the advocates of shock tactics are still numerous and influential, and men's minds are more powerfully swayed by sentiment than by experience and expediency. The Russian cavalry officers did not like being assigned the *rôle* of mounted riflemen, and the regiments converted into Dragoons 30 years ago have been recently re-converted into Lancers and Hussars.

Past experience seems to show that there is an inevitable tendency in regular bodies of mounted infantry to assimilate themselves to, and finally to develop into, cavalry.

Major Purdon has done good service to military history in tracing this development, and in giving a detailed account of the employment and conditions of service of the various kinds of mounted infantry in the feudal levies and standing armies of mediæval and modern Europe. We hope soon to see a second edition of this book, in which the many additional notes scattered throughout its pages, and appended at the end of it, may be incorporated in the text.

F.H.T.

IMPORTANT NAVAL AND MILITARY LITERATURE.

NAVAL.

[A selected list of books added to the Admiralty Library during August, 1912. Supplied by courtesy of the Admiralty Librarian.]

THE NAVAL MISCELLANY. Edited by Sir John Knox Laughton, R.N. Vol. ii. (Navy Records Society, vol. xl.). London, 1912.

A NEW SYSTEM FOR PREVENTING COLLISIONS AT SEA. By Sir Hiram S. Maxim. London, 1912.

THE SHIP CAPTAIN'S MEDICAL GUIDE. Edited by Charles Burland. Issued by the Board of Trade. London, 1912.

TO INDIA WITH THE KING AND QUEEN, 1911-1912. By A. W. Furness, Yeoman of Signals, R.N. London, 1912.

THE THEORY OF THE RECOIL OF GUNS WITH RECOIL CYLINDERS. By Professor F. Rausenberger. Specially printed from *Artilleristische Monatshefte*. Translated by Alfred Slater. London, 1909.

NOTES ON MILITARY EXPLOSIVES. By Erasmus M. Weaver, Brigadier General, U.S. Army. 3rd edition. New York, 1912.

OIL FINDING: an introduction to the geological study of petroleum. By E. H. Cunningham Craig. London, 1912.

HANDBOOK FOR HOTCHKISS 6-PR. AND 3-PR. QUICK-FIRING GUNS. 1912. By command of the Lords Commissioners of the Admiralty. London, 1911.

STATION AND FIRE BILL FOR HIS MAJESTY'S SHIPS. London, 1911.

PORTABLE WIRELESS TELEGRAPH STATIONS. Marconi's Wireless Telegraph Co., Ltd. London, 1912.

REPORT ON THE LIGHTING OF THE NORTH-EAST COAST OF AUSTRALIA (Torres Strait to Cape Moreton). Recommendations as to existing lights and additional lights. June, 1912. By Commander C. R. W. Brewis, R.N. Published by the Department of Trade and Customs, Commonwealth of Australia. Melbourne, 1912.

REPORT OF THE SOLAR ECLIPSE EXPEDITION TO VAVAU, TONGA ISLANDS, APRIL 29TH, 1911 (Easter date). Solar Eclipse Committee. London, 1912.

REVIEW OF NORWEGIAN FISHERY AND MARINE INVESTIGATIONS, 1900-1908. n.p., n.d.

DESCRIPTIVE CATALOGUE, CENTENARY EXHIBITION, BRITISH STEAM NAVIGATION, KELVINGROVE MUSEUM, 1912. Glasgow, 1912.

SOME ENVIRONMENTAL FACTORS IN RELATION TO DISEASE AFLOAT. By Fleet Surgeon C. Marsh Beadnell, R.N. A paper read at the Public Health Congress in Berlin, 1912. Portsmouth, 1912.

DRAKE AND THE ELIZABETHAN NAVY. By E. Hallam Moorhouse. London, 1912.

ROYAL MARINES OLD COMRADES ASSOCIATION. Rules of the Association. London, n.d.

HAANDBOG I NORDENS SÖKRIGSHISTORIE. (*Handbook of Scandinavian Naval History*). By Baron Schaffalitzky de Muckadell. Copenhagen, 1911.

DIE PROBLEME DER ÖSTERREICHISCHEN FLOTTENPOLITIK; DIE FRAGE DER GROSSEN SCHIFFE UND DEREN KONSEQUENZEN; FIASKO DER FRÜHEREN UND DIE MÖGLICHKEITEN DER ZUKÜNFTIGEN ÖSTERREICHISCHEN MARINEPOLITIK. ADRIA- ODER WELTPOLITIK? (*The problems of Austrian naval policy; big ships and their consequences; failure of the old policy and possibilities of the new. An Adriatic or a world policy?*) By Nereus. Wien, 1912.

IN ÖSTERREICHISCHEN DIENSTEN. (*In the Austrian Service*). By Hans Birch Freiherr von Dahlerup. 2 vols. Berlin, 1911-12.

LA PUISSANCE NAVALE NÉCESSAIRE. (*The necessary naval force*). By Rear Admiral Darrieus. Paris, 1912.

THE BRUSH STEAM TURBINE. 2nd edition. n.p., 1912.

THE COMMITTEE OF IMPERIAL DEFENCE: Its Functions and Potentialities. Being a Lecture delivered at the United Service Institution on 20th March, 1912. By Viscount Esher. London, 1912.

THE PASSING OF WAR. A study in things that make for Peace. By William Leighton Grane. 2nd edition. London, 1912.

INTERNATIONAL LAW. A Treatise. Vol. i. Peace. Vol. ii. War and Neutrality. By L. Oppenheim. 2nd edition. London, 1912.

SHORT GUIDE TO OBTAINING A COMMISSION IN THE SPECIAL RESERVE OF THE ROYAL FLYING CORPS. PROVISIONAL. London, 1912.

THE TREATMENT OF COMMERCE IN NAVAL WARFARE. A paper read at the National Peace Congress held in London, May 16th, 1912. By Francis W. Hirst. (International Arbitration League). London, 1912.

MILITARY.

[A selected list of books recently added to the War Office Library, supplied by courtesy of the War Office Librarians].

THE ASSAÏE CAMPAIGN. By Bt. Lieut.-Colonel W. D. Bird, D.S.O. (Reprinted from the *Journal of the United Service Institution of India*). 24 pp. Maps and plans. 8vo. Simla, 1912.

IN WEHR UND WAFFEN. EIN BUCH VON DEUTSCHLANDS HEER UND FLOTTE. (*Defence and Armament; a book on Germany's Army and Fleet*). By Lieut.-General Caemmerer and Lieut.-General Baron v. Ardenne. Lief. 44-46. Plates and illustrations. Fo. Stuttgart, 1912.

A PRONOUNCING VOCABULARY OF GEOGRAPHICAL NAMES, with notes on spelling and pronunciation and explanatory lists and derivations. By George G. Chisholm, M.A. 103 pp. 8vo. Glasgow, 1912.

PRÉPARATION A LA GUERRE. (*Preparation for War*). By Comdt. Debeugny. 61 pp. 8vo. Paris, 1912.

LE COMMANDEMENT ET L'ADMINISTRATION PAR LE GRAPHIQUE. (*Command and Administration shown graphically*). By Lieut.-Colonel E. Dubois and Lieutenant Goiffon. 82 pp. 8vo. Paris, 1912.

LES ARMEMENTS ALLEMANDS. LA RIPOSTE. (*German Armaments; The Parry and Thrust*). By Captain Pierre Félix. xxiii+114 pp. 8vo. Paris, 1912.

DIE TAKTISCHE VERWENDUNG DER SCHWEREN ARTILLERIE. (*Tactical Employment of Heavy Artillery; with examples*). Eine Studie an Beispielen erläutert. By Haupt. Hans Friedrich. 2te Auflage. 123 pp. Plans. 8vo. Berlin, 1912.

AN ANALYSIS OF THE SYSTEM OF GOVERNMENT THROUGHOUT THE BRITISH EMPIRE. li+191 pp. 8vo. London, 1912.

PREVENTION OF DISEASE AND INEFFICIENCY, with special reference to Indian Frontier Warfare. By Lieut.-Colonel Patrick Hehir, M.D., etc. 2nd edition. 655 pp. Plates. 8vo. Allahabad, 1911.

IÉNA ET LA CAMPAGNE DE 1806. (*Jena and the Campaign of 1806*). By Henry Houssaye. Introduction par L. Madelin. lxiii+274 pp. Portrait, map and plan. 8vo. Paris, 1912.

LES AÉROPLANES AUX MANŒUVRES RUSSES DE POLOGNE. (*Aeroplanes at the Russian Manœuvres in Poland*). Remarques et impressions d'un officier observateur. By Colonel Kontchevski. Translated by A. H. Plan. 37 pp. 8vo. Paris, 1912.

IMPROVISED METHODS OF AID IN THE FIELD, ETC. By Colonel H. Mackay, M.D. 2nd edition. 156 pp. Plates. 12mo. London, 1912.

OBSERVATIONS ON THE USE OF CHASSEURS AND IRREGULARS WITH AN ARMY IN AN ENCLOSED COUNTRY. By Lieut.-General J. Money. 27 pp. 8vo. London, 1798. Note.—*Imperfect, wanting pp. 1-6.*

LA LÉGION ÉTRANGÈRE. (*The Foreign Legion*). Recueil de documents concernant l'histoire, l'organisation et la législation spéciale des régiments étrangers. By Lieut.-Colonel Morel. 146 pp. Illustration. 8vo. Paris, 1912.

OPINIONS ALLEMANDES SUR LA GUERRE MODERNE. Fasc. 2.—MÉTHODES DE COMMANDEMENT : MÉCANISME DES MARCHES : L'OFFENSIVE ET LA DÉFENSIVE. (*German Opinions on Modern War; command; marches; offensive and defensive*). 8vo. Paris, 1912.

LIEUT.-GENERAL SIR J. OUTRAM'S CAMPAIGN IN INDIA, 1857-1858; comprising General Orders and Despatches relating to the defence and relief of the Lucknow garrison, and capture of the city, by the British forces; also correspondence relating to the relief, up to the date when that object was effected by Sir Colin Campbell. By Lieut.-General Sir James Outram, Bart. 412 pp. 8vo. London, 1860.

LA PERTE DE L'ALSACE, 4e édition. LA GUERRE EN LORRAINE, 2e édition. 2 vols. SEDAN, 3e édition. 2 vols. (*The loss of Alsace; the war in Lorraine; Sedan*). By Lieut.-Colonel Ernest Picard, 1870. Maps and plans. 8vo. Paris, 1907-12.

DIE FRANZÖSISCHE ARMEE. MERKBLATT FÜR DEN MANNSCHAFTSUNTERRICHT. (*The French Army; Notes for Instruction of Rank and File*). By Haupt. Streit. 14 pp. 12mo. Berlin, 1912.

MANŒUVRE ORDERS, ETC. By Colonel F. J. A. Trench, C.V.O. 11th edition, revised by Major B. M. Bateman. 115 pp. 12mo. London, 1912.

LIST OF BRITISH AND FOREIGN PERIODICALS.

The following list by Countries of Periodicals and Newspapers taken in by the Royal United Service Institution, 1st January, 1912, is published for information of Members.

NOTE 1.—Periodicals marked * are bound and retained in the Institution; other periodicals are retained for a year, and newspapers for three months, and then destroyed.

NOTE 2.—A=Annual; W=Weekly; bi-W=Twice Weekly; M=Monthly; bi-M=Twice Monthly; 2 M=Every two months; Q=Quarterly; bi-A=Twice Yearly.

AMERICA (North; United States).

<i>Issues.</i>		<i>Issues.</i>	
American Civil Engineers ...	M	*Journal of the U.S. Cavalry Association ...	Q
Army & Navy Journal ...	W	*Journal of the U.S. Infantry Association ...	Q
Journal of the American Society of Naval Engineers ...	Q	North American Review ...	M
Journal of the Association of Military Surgeons ...	M	*Proceedings of the U.S. Naval Institute ...	Q
*Journal of the Military Service Institution ...	2M	Professional Memoirs of Corps of Engineers ...	bi-M
*Journal of the United States Artillery ...	2M	Scientific American (with Supplement) ...	W

AMERICA (South and Central).

Boletin del Centro Naval ...	M	Revista del Boletin Militar del Ministerio de la Guerra	M
Boletin del Ingenieros (Mexico) ...	M	Revista de Marine ...	M
Boletin del Ministerio de Guerra y Marina ...	bi-M	Revista Maritima Brasileira	M
Memorial del Estado Major del Ejercito de Chili ...	bi-M	Revista Militar (Buenos Aires) ...	M

AUSTRIA-HUNGARY.

Danzer's Armee-Zeitung ...	W	*Mittheilungen über Gegenstände des Artillerie und Genie-Wesens ...	M
*Kavalleristische Monatshefte Militärische Presse mit Vedette ...	M	*Streffleurs Militärische Zeitschrift ...	M
*Mittheilungen aus dem Gebiete des Seewesens ...	M		

BELGIUM.

*Bulletin de la Presse et de la Bibliographie Militaires ...	bi-M	*Revue de l'Armée Belge ...	2M
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DENMARK.

Militært Tidsskrift ...	bi-M	Tidsskrift for Sovaesen ...	M
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FRANCE.

	Issues.		Issues.
Armée et Marine	bi-M	Questions Navales Revue	
*Journal des Sciences Militaires	bi-M	Générale de la Marine ...	bi-M
La France Militaire	D	*Revue d'Artillerie	M
La Ligue Maritime	M	*Revue de Cavalerie	M
La Marine Française	M	*Revue d'Histoire	M
*La Revue d'Infanterie	M	*Revue des Deux Mondes ...	M
Le Moniteur de la Flotte ...	W	*Revue du Génie Militaire ...	M
La Vie Maritime	bi-M	Revue du Service de l'Inten-	
*Le Spectateur Militaire ...	bi-M	dance Militaire	M
Le Temps	D	*Revue Maritime	Q
Le Yacht	W	*Revue Militaire des Armées	
Memorial du Génie Maritime	A	Etrangères	M
Questions Diplomatiques et		*Revue Militaire Générale ...	M
Coloniales	M		

GERMANY.

*Almanach de Gotha	A	*Marine Rundschau	M
*Artilleristische Monatshefte	M	Marineverordnungsblatt ...	bi-M
Der Ingenieur	bi-M	Militär-Literatur-Zeitung ...	M
Deutsches Kolonialblatt ...	M	*Militär-Wochenblatt	W
Die Flotte	M	*Militär-Wochenblatt Beiheft	M
Internationale Revue über		Neue Militärische Blätter ...	W
die gesamten Armeen und		Überall	bi-M
Flotten	M	*Vierteljahrshefte für Trup-	
*Jahrbücher für die Deutsche		penführung und Heere-	
Armee und Marine	M	skunde	Q
*Löbell's Jahresberichte über			
die Veränderungen Fort-			
schrift im Militärwesen ...	A		

GREAT BRITAIN, DOMINIONS, AND COLONIES.

*Aeronautical Journal	M	*Canadian Military Institute	
Aldershot News	W	Transactions	A
*Annual Register	A	*Cavalry Journal	Q
*Archæological Journal	Q	*Changes in War Material ...	M
Arms and Explosives	M	Clergy List	A
*Army and Navy Gazette ...	W	Colonial Office List	A
*Army Annual	A	Commonwealth Military	
*Army Orders (Great Britain)	M	Journal	A
*Army Orders (India)	M	Daily Graphic	D
*Army Review	Q	Daily Telegraph	D
Army Service Corps Journal	M	Debrett's Peerage	A
Army Service Corps Journal	Q	*Edinburgh Review	Q
*Asiatic Quarterly Review ...	Q	Empress	bi-M
Athenæum	W	Engineer	W
Blackwood's Magazine	M	Engineering	W
Brassey's Naval Annual	A	Engineering Magazine	M
Broad Arrow	W	Foreign Office List	A
Canadian Artillerist	bi-A	Fortnightly Review	M
Canadian Mail	W	*Geographical Journal	M
Canadian Military Gazette ...	W	Globe	D

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Graphic	W	Nineteenth Century	M
*Hart's Army List	A	Navy League Journal	M
Hazell's Annual	A	*Notes and Queries	W
Household Brigade Magazine	Q	Page's Weekly	W
*Illustrated London News ...	W	Proceedings of the Institution	
*India Office List	A	of Mechanical Engineers	2M
International Marine Engin-		*Proceedings of the National	
eering	M	Rifle Association	A
*Journal of the East India		*Proceedings of the Royal	
Association	Q	Society of Edinburgh	A
Journal of the Imperial Insti-		*Proceedings of the Royal	
tute	M	Colonial Institution	A
Journal of the Royal Anthro-		Proceedings of the Royal	
pological Institute	A	Institution of Great Britain	A
*Journal of the Royal Army		Proceedings of the Royal	
Medical Corps	M	Society	M
*Journal of the Royal Artillery	Q	Punch	W
Journal of Royal Colonial		Pioneer Mail	W
Institute (United Empire)	M	*Quarterly Review	Q
Journal of the Royal Sanitary		Review of Reviews	M
Institute	M	Royal Blue Book	A
Journal of the Royal Statisti-		*Royal Engineer's Journal ...	M
cal Society	Q	*Royal Engineer's Proceedings	A
*Journal of the Royal Society		Saturday Review	W
of Arts	W	Shipping World	W
*Journal of the United Service		Standard	D
Institution of India	Q	Spectator	W
*Journal and Proceedings of		*Statesman's Year Book	A
the United Service Institu-	A	Territorial Service Gazette ...	W
tion of New South Wales	W	The Fleet	M
*Lancet	A	The Fleet Annual	A
Law List	A	The Institute of Commercial	
*Lean's Royal Navy List and		Research in the Tropics,	
Recorder	Q	Liverpool University	Q
London District General		The Navy	M
Orders	D	*The Times	D
*London Gazette	bi-W	*The Times Index (Palmer's)	Q
Marconigraph	M	*Transactions of the Institu-	
Marine Engineering	M	tion of Naval Architects	A
Marine Magazine	Q	Transactions of the United	
Mariner and Engineering		Service Institution, Victoria	A
Record	M	United Service Gazette	W
Mariner's Mirror	M	*United Service Magazine ...	M
Medical Directory	A	War Office List	A
Military Mail	W	War Office Administrative	
Morning Post	D	Directory	A
National Defence	Q	Westminster Gazette	D
National Review	M	Whitaker's Almanac	A
National Rifle Association		Who's Who	A
Journal	M	World's Travel Gazette	M
National Service Journal ...	M	Year Book of Scientific and	
*Nautical Magazine	M	Learned Societies	A
Naval and Military Record ...	W		
*Navy League Annual	A		

ITALY.

	Issues.		Issues.
Rivista di Artiglieria e Genio	M	Rivista Militare Italiana	M
*Rivista Marittima	M	Rivista Nautica Italia Navale	M

NETHERLANDS.

Marineblad	...	Q	Mavors	...	M
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NORWAY.

Norsk Artilleri Tidskrift	...	2M
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PORTUGAL.

Annaes do Club Militar Naval	M	Revista de Infanteria	...	M
Liga Naval Portuguesa	M	Revista Portuguesa, Colonial e Maritima	...	M
Revista de Engenharia Militar	Q			

ROUMANIA.

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RUSSIA.

Cronshadtsky Vestnik	...	3W	Ofitsirskya Jizen	...	bi-M
Morskoi Sbornik	...	M	Voiennyi Sbornik	...	M

SPAIN.

Boletin del Ministerio de Guerra y Marina	...	M	Revista Científico-Militar y Biblioteca Militar	...	M
Boletin oficial de la Liga Maritima Espanola	...	M	Revista de Caballeria	...	M
Memorial de Ingenieros del Ejercito	...	M	Revista General de Marina y Caballeria	...	M
			Revista Técnica de Infanteria	...	M
			Vida Maritima	...	M

SWEDEN.

Tidskrift i Sjöväsendet	...	M	*Revue Militaire Suisse	...	M
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SWITZERLAND.

TURKEY.

La Défense Nationale	bi-M
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MISCELLANEOUS.

British, Colonial and Foreign Navy and Army Lists,
French and German Naval and Military Budgets
Railway Guides, Post Office Directories, etc.

NOTE.—The "Contents of Foreign Periodicals" for August, together with those for September, will be given in the October number of the JOURNAL.—Ed.

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EDITED BY

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(P.S.C. Honours). Author of "Notes on Organization and Equipment," etc.

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CONTENTS OF THE VOLUME.

- | | |
|--|---|
| <p>The Army Council.
The Army Estimates.
Distribution of Regimental Establishments.
Service Questions in Parliament.
Items of Interest.
The Health of the Army.
Extracts from the Annual Report on Recruiting for the Year ending September 30, 1911.
Territorial Force Annual Return.
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The Organization of the Naval and Military Musical Union.
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Progress in Aeronautics.
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Brigades and Divisions in Expeditionary Force and in India, on War Establishment.
Memorandum explaining the Re-organized Systems of Supply and</p> | <p>of Ammunition Supply of the Expeditionary Force in War, consequent on the introduction of Mechanical Transport.
Special Instructions for the Utilization of the Local Resources of a Country by an Army in the Field.
Promotion Examinations.
Progress made in the Re-organization of the Defence Forces of the Dominions of Canada and New Zealand and the Commonwealth of Australia.
Six Lectures at the Senior Officers' Course, S.M.E. Chatham, 16th to 31st October, 1911, viz.:
(1) Organization and Functions in Peace and War of the various Units R.E. with special reference to the training at Chatham.
(2) Co-operation of R.E. with other Arms in War and Peace.
(3) The Organization and Functions of R.E. Units.
(4) R.E. Siege and Fortress Units with reference to Fortress Warfare.
(5) The Employment of Field Companies in the Improvement and Destruction of Communications.
(6) Synopsis of Lecture on "The Army Signal Service."
Transport Tactics.
Publications of Military Interest.
Definitions.</p> |
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Capt. H. L. Nevill, D.S.O., Royal Field Artillery.
" H. Karslake, D.S.O. Royal Field Artillery.
" E. N. Tandy, Royal Garrison Artillery.
Lieut. H. C. T. Dowding, Royal Artillery.
" G. W. V. Holdich, Royal Artillery.
Capt. D. Forster, Royal Engineers.
" W. G. S. Dobbie, Royal Engineers.
Capt. Sir T. R. L. Thompson, Bart., Royal Engineers.
Capt. C. P. Heywood, Coldstream Guards.
" A. E. McNamara, Royal West Surrey Regiment.
" E. Hewlett, Devonshire Regiment.
" H. C. Maitland Makgill Crichton, Royal Scots Fusiliers.
" G. M. Shipway, Gloucestershire Regiment.
" R. N. Dick, Royal Sussex Regiment.
" R. G. B. M. Hyslop, Dorsetshire Regiment.
" A. R. M. Roe, Dorsetshire Regiment.
Lieut. J. M. Blair, Royal Highlanders.
Capt. R. J. Collins, Royal Berkshire Regiment.
" R. M. G. Tulloch, Royal West Kent Regiment.

Capt. J. E. Munby, Yorkshire Light Infantry.
" F. H. Dorling, Manchester Regiment.
" T. H. C. Frankland, Royal Dublin Fusiliers.
" P. B. Maxwell, 35th Sikhs (Indian Army).
Lieut. C. W. G. Walker, 37th Dogras (Indian Army).
Capt. E. R. Hayes Sadler, 8th Gurkha Rifles (Indian Army).

Nominations:

Capt. G. A. Weir, 3rd Dragoon Guards.
Capt. G. E. Bolster, Royal Artillery.
" J. S. FitzGerald, Royal Irish Regiment.
" O. H. Delano-Osborne, Royal Scots Fusiliers.
" G. H. N. Jackson, D.S.O., Border Regiment.
" C. H. Lyon, North Staffordshire Regiment.
" W. W. Pitt-Taylor, D.S.O., Rifle Brigade.
" W. L. Maxwell, 127th Light Infantry (Indian Army).

STAFF COLLEGE (QUETTA), OCTOBER, 1911.

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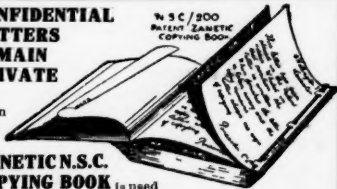
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